The Builder.

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Manchester Exchange and Town Hall.

THE new buildings for the Manchester Exchange, designed by Messrs. Mills & Murgatroyd, architects, were illustrated some time since in our pages. The work is now nearly approaching completion; the greater part of the news-room has been in occupation by the subscribers for some little time, and the whole will be finished and opened on the 19th inst.; that is the date named for completion, at least, but no formal opening ceremony is contemplated. There will still be work to be done in getting the offices on the upper floors ready for occupation, but this does not affect the main portion of the interior in which the business of the Exchange is carried on.

The new room is of imposing size, and on the whole has a fine effect, whatever may be thought of some of the detail. What may be termed the wall-design of the room, consists of an "order" and an attic; or we may perhaps call the upper part a "clearatory," to borrow a Gothic term. The order is represented by large half-columns of red Cork marble, unfluted, with gilt foliated capitals and metal bases; these latter were made in Berlin, and are excellent specimens of casting, and very good in design. A deep cornice, frieze, and architrave, carried right round over the columns, give a strong horizontal line, about three-fourths of the height from the floor, and over this the space on the two long sides is pierced with semicircular-headed windows, with shafts between them, the corresponding space at the ends being occupied by a wall arcade. The windows are filled with lightly-stained glass, with borders and an ornamental centre. The ceiling has a deep bracketed cove supporting a soffit, and the centre portion is divided by transverse soffits into three compartments, the centre one covered by a large dome, and the end compartments by lower and smaller domes. The large dome is treated as a coffered dome, with the coffers filled with ornamental glass of the same type of design as that in the side windows: it looks rather heavy, as it rises of course from the ceiling and not from the walls; in such a case it is better to treat the dome as a skylight rather than as a solid structure. Care has been taken to furnish a tolerably adequate basis for it, so far as the eye is concerned, by the large brackets which interrupt the cove opposite the angles of the dome.

The domes are sprung from the rectangular compartments of the ceiling on nearly flat pendentives; the space between the pendentives, forming a long low panel on each face beneath a segmental arch, is filled with symbolic subjects, drawn in outline, representing in the centre dome Commerce, Science, the Arts, &c.; and in the smaller domes the four Seasons; the end compartments only of the smaller domes being painted in this way, and the side ones filled with conventional floral ornament. Messrs. Harwood, of Manchester, are the contractors for the decoration; but the designs in the interspaces of the pendentives are by Mr. Thomas. The base of the dome bears the inscription, from the book of Proverbs, "A good name is more to be chosen than great riches, and loving favour rather than silver and gold;" or to that effect. One gets rather tired of this cant of painting up such texts in places of business. Every one on the floor of the room will be occupied in the pursuit of riches, and what is the use of denying it on the ceiling?

A reading-room, on a mezzanine floor, runs the whole length of one side of the great room, with an excellent light, and a compartment at the end further shut off as a writing-room. Every convenience in the way of accessories, retiring-rooms, &c., is provided on a liberal scale throughout. The telegram stands, besides other ornamental ironwork in the way of lamp brackets, have been supplied by Messrs. Smith, of Birmingham; but the pendent chandeliers, for lighting the large room, are supplied by Mr. Rigby, of Manchester: these are patent paraf. fine lamps; the rest of the lighting is by gas. The grates and mantel-pieces, and the ornamental wall tiling, are supplied by Mr. Pattison, of Manchester; and the majority of the ironwork of construction by Messrs. Fairbairn. The ornamental glass is by Mr. Edmundson, of Manchester.

The portion of the ground-floor next the exterior is mostly occupied by shops, which are commodious and well lighted, and are already mostly let. A portion of the upper floors, behind the large room, will be let as offices, but this part is not so forward as the rest. The remainder of the floor is occupied by two extensive dining and luncheon rooms, taken by the Liverpool and Manchester Restaurant Company (Limited). One of these is finished and opened; it is lighted entirely by gas, no daylight being available, but looks none the worse on that account. The line of a street which formerly went across the centre of the site, at right angles with Market-street, is retained in this floor, which it traverses, from an open entrance at one side of the present building: this forms one access to the restaurants, which are on each side of it; but its more important use is as an access for carts laden with goods to the back of the shops. Below this floor, which is about on a level with Market-street, are two stories of vaults, let, or to be let, as wine-cellars. The space under the flight of steps in Cross-street, leading to the principal entrance, is utilised as a smoking-room in connexion with the restaurant, and below this are the kitchens. The site has certainly been made the most of in regard to a remunerative return for capital expended. A hydraulic lift is provided in the building; a wind-dial will be formed in the newsroom, connected with a wind-gauge on the roof; and an electric clock furnished by Mr. Ritchie, of Edinburgh, will give the time to all the clock-dials fixed in different parts of the building. The whole of the work has been carried out under the immediate superintendence of Mr. Grimes, as clerk of works.

The other great public building, which will form the central architectural feature of Manchester, the Town-hall, is now in a tolerably advanced state. The exterior is nearly complete, except the tower, to which a considerable portion has still to be added. The contract for internal work was taken last Whitsuntide by Messrs. Clay & Son for 93,000*l*. We shall find an opportunity of noticing the building in detail when completed; but in its present "shell" state, it presents much for admiration, and is at least fully worthy of its architect's reputation. The masterly manner in which Mr. Waterhouse had combined all the multifarious requirements of the plan, on an irregularly-shaped site, in a perfectly simple and symmetrical scheme, was admired by all who studied the competition plans at the time; and it strikes one even more when looking at the building in execution. Coming in at one of the circular angle staircases, we see the main corridors stretching in both directions, giving direct access to every part, and reducing to real simplicity of plan the apparently picturesque disorder of angles and windows and bridged passages, which we see on looking into the courts from the windows of the inner side. The corridors are vaulted, in some places plastered, but in the leading thoroughfares finished with a parti-coloured masonry filling of Bath and blue Forest of Dean stone in bands of varying width. Terra-cotta has been used in the production of horizontal bands of decoration on the walls of the corridors and elsewhere. An excellent point in the building is that the inner courts are not, as is so frequently the case, left almost bare of architectural treatment, but are studied and finished with the same care as the exterior; special decoration is to be applied in some of these courts, in the spandrels of arches, which are at present left with a brick face, until the method of treatment is decided upon. This decorative treatment of the inner courts is as it should be; for nothing is more ill-judged than to give a building a highly decorative exterior, and then leave those who are living and working in it nothing to see but bare blank walls by way of a view from the inner windows. The circular staircases are an admirable piece of work, both in design and execution. The building is in that manner of Gothic treatment which its author seems to have finally made up his mind to, and which he has to some extent invented for himself; a manner which is not highly picturesque in detail, but has a sterling common-sense look about it which will probably always be recognised as satisfactory and appropriate in its way, whatever changes of taste we may go through. Of the success of the central feature, the tower, it is impossible to form an opinion, of course, till its completion. The difficulties of vaulting have not been overcome, in the angles formed by the junction of the staircases and passages, here any more than elsewhere. The work is admirable; but twisted lines and varying curves in the ribs testify to the impracticable nature of this system of roofing except under the simplest conditions of plan, in despite of its long and illustrious pedigree.

One or two new buildings, approaching completion, near an angle of the town-hall, constitute recent additions to the architectural aspect of the neighbourhood of Market-square, which, when the town-hall is complete, will form, with the Prince Consort Memorial and the, at all events, highly respectable average of style in the buildings surrounding it, an architectural centre such as few modern towns in England possess. Of the new buildings referred to, the one at the angle of the square, and therefore most prominent, is fortunately the best; it is by Mr. Redmayne, of Manchester. It appears to be intentionally assimilated to the style of the town-hall.

MR. GLADSTONE ON ENGLISH TASTE.

In the paper in the *Contemporary Review*, already noticed, in which Mr. Gladstone endeavours to discriminate the distinction between "Ritualism" and "Ritual," are some remarks on the attitude of the English mind in regard to art, generally as well as specially, which may interest some of those to whom the main subject of the paper would have only a partial attraction, if any. In the course of criticism upon a rather narrow subject, the author gets occasionally on ground of wider interest. Regarding ritual as the marriage of the outward to the inward, he is led to remark on the deficiency of the English nation in regard to the perception of the harmony which should exist between ideas of order and fitness, and their outward expression. Mr. Gladstone says:—

"As a people we are, in the business of combining beauty with utility, singularly uninstructed, unaccomplished, maladroit, unhandy. If instances must be cited,

they are not far to seek. Consider the unrivalled ugliness of our towns in general, or put Englishmen to march in a procession, and see how, instead of feeling instinctively the music and sympathy of motion, they will loll, and stroll, and straggle; it never occurs to them that there is beauty or solemnity in ordered movement, and that the instruction required is only that simple instruction which, without speech, Nature should herself supply to her pupils.

'Quid fecerent, ipsi nullo didicere magistro.'

Take again,—sad as it is to strike for once at the softer portion of the species,—the dress of Englishwomen, which, apart from rank and special gift or training or opportunity, is reputed to be the worst in the European world, and the most wanting alike in character and in adaptation. Take the degraded state, in point of beauty, at which all the points of design, and all industrial production, had arrived among us some fifty years ago, in the iron age of George IV., and before the reaction which has redeemed many of them from disgrace, and raised some to real excellence.

But, indeed, in too many cases, our repentance is almost worse than our transgressions. When we begin to imbibe the conception that, after all, there is no reason why attempts should not be made to associate beauty with usefulness, the manner of our attempts is too frequently open to the severest criticism. The so-called beauty is administered in portentous doses of ornamentation sometimes running to actual deformity. Quantity is the measure, not quality, nor proportion. Who shall now compete with the awakened Englishwoman for the house of hair built upon her head, or for the measureless extension of her draggling train? Who shall be the rival of some English architects plastering their work with an infinity of pretentious detail in order to screen from attention inharmonious dimension and poverty of lines? Or that I may without disguise direct the charge against the mind and spirit of the nation, embodied in its Parliament and its Government,—what age or country can match the practical solecisms exhibited in the following facts and others like them? Forty years ago we determined to erect the most extensive building of Pointed architecture in the world, namely, our Houses of Parliament, or, as they are called, the Palace of Westminster. We entrusted the work to our most eminent Italian architect. Once was pretty well; but once was not enough. So, twenty years ago we determined to erect another vast building in the Italian style, namely, a pile of public offices, or, as some would call it, a Palace of Administration; and we committed the erection of it to our most experienced and famous architect in the Pointed species. Thus each man was selected for his unacquaintance with the genius of the method in which he was to work. Who can wonder, in circumstances like these, that the spirit and soul of style are so often forgotten in its letter; that beauty itself unlearns itself, and degenerates into mere display; that for the attainment of a given end, not economy of means, but profusion of means, becomes our law and our boast; that in the Houses of Parliament, dispersion of the essential parts over the widest possible space marks a building where the closest concentration should have been the rule; and that the Foreign Office, which is a workshop, exhibits a staircase which no palace of the Sovereign can match in its dimensions?"

The observation as to the English method of walking in procession is characteristic enough. It is one form or evidence of the essentially unmusical nature of the English mind, taking the epithet in its widest sense, as the want of perception of rhythm and tune—a deficiency which is the explanation of peculiarities of national character or action which might, superficially considered, appear much less connected with it than they really are. In regard to the remarks bearing more particularly on architecture, it is some consolation to find one eminent politician at least who can see the absurdity of such solecisms as are referred to in the case of two of our most important architectural works. Few persons in England probably realise how impossible in the great days of Italian art, for instance, would have been such a putting of the wrong man in the wrong place, such a selection of an artist for mere reasons of State, or (still more absurd) of a style for similar reasons. The style of the Foreign Offices depended, not on the judgment of the architect, or even of the people or any body of them, but on the personal prejudices of Lord Palmerston. The wonder in the case of the Foreign Offices is that so practically-minded a man as the cheery Premier of that day should not have seen, at least, the absurdity of compelling an architect to work out of his own chosen style, and in one which he had always disliked and protested against. At the same time there is this to be said, that an artist of the widest ability and culture will be likely to succeed, to be original, in whatever groove he is compelled to adopt. In this respect the "Westminster Palace," whatever its defects, is a lasting testimony to Barry's versatility of power and that innate taste and feeling which directed him; and it may very well be questioned whether any Gothic architect to whom the building could at that time have been entrusted would have made on the whole so good a thing of it; or whether there is any one to-day among the Gothic ranks who could improve upon it in the best qualities of its design, though the detail might be improved. The mistake, on principle, in giving such a building to a Classic architect is as great as Mr. Gladstone says; but he overrates the actual loss in that particular case, and certainly overrates the deficiencies of plan in the building.

The wider charge against us as a nation, for the peculiar and questionable character of our "repentance" for having neglected art, is certainly borne out by facts. We are constantly meeting, in public and in private life, with examples of this kind of florid and over-acted determination to be artistic and to evince a taste, and nothing is more calculated to cause despair to those who would fain see refinement and beauty in our daily lives and surroundings, than the constant endeavour to obtain these, in a blind kind of manner, by expending much money and labour in ornament and show of decoration, without thought as to its fitness, or the most effective way of using it. There has been a partial practical opposition to this from some few of our architects, and one or two have never given into it at all. But in the main we have now a kind of revival of the spirit of parade and ostentation, as compared with that of our middle-age architecture, which is, in some sort, a repetition of the ostentation of Roman imperial architecture and ornament, as compared with Greek. In our own case this bad and vulgar taste is, however, that of the members of the middle classes, who are rising in wealth and importance and in habits of luxury, without culture and refinement to direct them. The architect of the present day is almost compelled to take his taste from them, or to conform to theirs, at the risk of losing success and reputation. The little quiet and refined work that is done is mostly for amateurs of another class. It will take a considerable time to correct this notion of the beauty of show and costliness in the average English mind, and to build up a taste for real beauty and its great constituent, "fitness." In regard to these subjects, the author of the "Ritualism" paper is in a certain sense a middle-class man without middle-class taste; a man of the people with a taste formed on associations higher than those of the people generally. The essay referred to is essentially anti-Philistine. We are grateful to Mr. Gladstone for criticism of this tendency, even when delivered but *en passant*. We only regret that his voice and influence have not oftener been brought, openly, to bear on such matters, during his days of more direct public power and authority.

GLASGOW AS IT WAS.

John Gibson, a worthy native and bailie of Glasgow, who probably was acquainted with the family of the Jarvies of the Salt-market of the capital of western Scotland, and who may in his boyhood have beheld the stalwart form of the Red Macgregor, claims in his history of his native town a high antiquity for its foundation. He writes, "Glasgow in the Welsh language, as well as in the Gaelic, signifies a grey smith. The only inference that can be drawn from this is that some spot of this most ancient city was in former times, before the establishment of the bishopric, the place of residence of some blacksmith who had obtained a name in his profession, and from him it got the appellation of Glasgow, or the habitation of the grey smith." The worthy bailie is somewhat dubious as to this grey smith, for he honestly acknowledges that, "In treating of the antiquity of Glasgow, probability or conjecture must supply the place of evidence, as authentic records with regard to its foundation are not to be procured." Thus, 100 years ago, wrote the bailie concerning his native town. Twenty years afterwards, Mr. Andrew Brown, of Edinburgh, wrote a somewhat bulky history of Glasgow. He disposes of the derivation of the name in a summary fashion:—"Glasgow, we are told by some, is a Gaelic word, signifying grey smith, and got its name from a person of that profession, who had his residence on or near the place where the bishop's castle afterwards stood. Others say Glascow in that language signifies the Greyhound Ferry. Glasgow, we are also told, signifies the Dark Glen." Bidding the rather mythical smith farewell, we turn to the belief, that while the Romans maintained possession of North Britain, they had a station on the spot on which Glasgow is now built, and being within the Wall of Antoninus, which crossed Scotland from the Forth to the Clyde, a few miles to the north of Glasgow, it was included in the province of Valentia, and retained by the Romans until their final expulsion from Britain. St. Mungo carried on what the Romans had begun, by increasing the number of houses, and afterwards establishing a cell and a religious fraternity at Glasgow. The city continued to to be little more than a religious establishment; indeed, from the end of the sixth to the commencement of the twelfth century there is no historical mention of the place. In the year 1115 David, Prince of Cumberland, refounded the see; and having, in 1124, succeeded his brother, Alexander I., on the throne of Scotland, he promoted his chaplain, Achaius, to the bishopric. In 1165 Pope Alexander III. issued a bull commanding the faithful to visit the Cathedral of Glasgow, and in 1180 the town was erected into a royal burgh.

Travelling quickly over the centuries, we get some strange glimpses of the social life of Glasgow. In 1588, the kirk-session appointed some ash trees in the churchyard of the High Church to be cut down to make forms for the folk to sit on in the kirk; women were ordered not to sit upon the forms, but to bring stools with them. Intimation was made that "no women, married or unmarried, should come within the kirk-door to preaching or prayers with their plaid about their heads, neither to lie down in the kirk on their face in time of prayer; with certification that their plaids be drawn down, or they be raised by the beadle." The beadles were to have staves for keeping order in the kirk, and were to receive 4d. for each marriage and 2d. for each baptism. At a meeting of the town council in 1609 the provost alarmed the council by informing them that the magistrates had been charged in the sum of one hundred pounds by the clerk register for the book called "Regium Majestatem," and that they were in danger of seizure for debt, as the council could not officially advance the money; but the provost dispelled their fears by telling that he "had borrowit the sum (8l. 6s. 8d.) from William Burn, ane merchaunt burgess." In 1610, the town council enacted that there should be no middens (dunghills) on the fore streets, nor in the flesh market, or any other market, under a penalty of 13s. 4d.; and in the same year ordained that the lepers of the hospital should go only on the causeway-side near the gutter, and should have "clapperis" (clappers) and a cloth upon their mouth and face, and should stand afar off while they received their alms, under the penalty of being banished from the town and hospital. In 1649, the kirk session intimated that any person knowing any point of witchcraft or sorcery against any one in the burgh should inform the ministers or magistrates of the same. In 1684, a number of Covenanters were hanged in the town, and their heads stuck on pikes on the east side of the gaol. In 1698, the Glasgow magistrates granted an allowance to the gaoler for keeping warlocks and witches imprisoned in the Tolbooth. In 1717, the Convention of Royal Burghs passed an Act prohibiting persons from trading in Glasgow unless they resided eight months of the year within it.

We now come to the volume written by John MacUre, and dedicated "To our most High and Mighty Prince, John Duke of Argyle," &c. In this book we see Glasgow as it was 140 years ago. With the following flourish MacUre, registration clerk of the city, commences his treatise: "In the nether ward of Clydesdale and shire of Lanark stands deliciously on the banks of the river Clyde, the city of Glasgow, which is generally believed to be of its bigness the most beautiful city of the world, and is acknowledged to be so by all foreigners that come thither." This is rather loud boasting, and would be laughable in the extreme were it not for the qualifying phrase—"of its bigness." In MacUre's time Glasgow must have been "deliciously situated." It possessed three public parks: Craig's Park "nobly beautified with a stately grove of fir-trees"; and the New Green, which is "adorned with pleasant galleries of elm-trees"; this green is fenced on the south side by the river Clyde, and "hath all the summer time betwixt 200 and 300 women bleaching of linen cloth. . . . likewise there is a lodge built of freestone in the midst of the Green for a shelter to the Herd who waits upon the horses and cows that are grazed therein."

The third park, or Old Green, was smallest in size: "within this Green is the rope-works which keep constantly about twenty men at work." On the west end of the Green were the glass-works.

"In the city there is plenty of water, there being sweet-water wells in several closes (alleys) of the town, besides sixteen public wells, which serve the city night and day as need requires, all with pumps in them for drawing the water."

Now for its "delicious situation"; and what a change is here! "The city is surrounded with

corn-fields, kitchen and flower gardens, and beautiful orchards abounding with fruits of all sorts, which, by reason of the open and large streets, send forth a pleasant and odoriferous smell." We can judge of its "bigness" when we are informed that "there are eight ports or gates within the city, and ten principal streets, with seventeen lanes or wynds." Thus far John MacUre.

One hundred and forty years pass, and what is Glasgow now? One of the leading commercial cities of the world. The Clyde, once scarcely navigable by the smallest of fishing craft, has, through dredging and embanking, been rendered able to bear to the quays the largest of sea-going ships. Instead of its "four mills," huge factories, with their tens of thousands of spindles, are busily at work. The little boy who sold scientific toys at the gate of the old university of Glasgow has, in a certain sense, created the city, whose bounds have since the days of John Mac Ure, been enlarged; but beyond these bounds there are no pleasant orchards, no sweet-smelling gardens; they have given place to roaring furnaces that all day blacken the sky with their smoke, and send a lurid glare down the night. The Wizard of the North has unwittingly done much for Glasgow. Thousands of tourists from all lands every year make their way to Glasgow as a certain point from which to set out for the scenes over which he has flung the glamour of romance. Not forgotten as an element of success must be the untiring energy of the citizens themselves.

GLASGOW NOW.

COST OF IMPROVEMENTS—TWO YEARS' BUILDING.

From a statement made by Bailie Morrison, at the annual meeting of the Glasgow Improvement Trust, it appears that the total properties purchased by the trustees numbered upwards of 1,000, and amounted in value to 1,241,353*l*. The expense incurred for the Oatlands in cost of land, construction of sewer, mason work, interest, &c., amounted to 32,263*l*., whilst Overnewton was represented by the sum of 33,100*l*. The total sum expended by the trust up to the present time was 1,377,927*l*. The total expenditure in the course of a few months would be 1,437,261*l*., as there were items which did not appear in the annual statement. To that also would have to be added properties still to be purchased. There were forty different areas: very few of these areas were completed—perhaps not more than five or ten,—but in the thirty remaining areas there were properties still to be acquired. The purchase of these had been postponed in consequence of difference of opinion between their proprietors and other circumstances. The value of these might be assumed at 200,000*l*., so that there was still involved an expenditure of 1,637,261*l*., to complete the improvement scheme. The original Parliamentary estimates, were in round figures 1,400,000*l*., so that they were apparently a quarter of a million in excess of the Parliamentary estimates, and of the cost of the scheme. Up to the 31st August the cash sales effected by the commissioners amounted to 201,860*l*., and the sale of ground amounts at twenty years' purchase to 312,392*l*., making together 514,252*l*. The sum borrowed on mortgage by the commissioners was 1,033,991*l*. 6*s*. 1*d*. The Bailie then proceeded to describe the operations of the trust in various districts of the city, comprising Main-street, Gorbals, and the area bounded by Stirling-road, Bell-street, High-street, and Albion-street. The last-named district he found out would improve in value when the boundary streets were widened, and when the Midland and North-British Railway had opened their extensive stations in High-street; but the committee were alive to the fact that as proprietors of more than a million's worth of property, it would be better to sell at fair rates than to hold on, and they accordingly proposed to sell the property in the area named. In selling the ground in Main-street, Gorbals, the committee had reserved to themselves the right to three "articles." One of these was represented to be the first, or one of the first, engines made by James Watt when a working tradesman in Glasgow; the second consisted of the Old Elphinstone Arms in Main-street, Gorbals; and the third was the Hammerman's insignia. He should be glad if those articles were removed to the City Museum, or intrusted to some safe custodier. The operations in progress included the erection of the pavilion at Bridgeton Cross, which, with the exception of the clock, would, he expected, be completed by the end of the next week. The work, in his opinion, reflected great credit on the contractor. It was intended that a turret-clock should be placed on the top of the pavilion, to be kept lighted at night, and the arrangements were such that the same jets which illuminated the clock also lighted the interior of the pavilion. Here, likewise, it was intended to erect two drinking-fountains. With regard to prospective work it was intended to open up the whole of Main-street on the west side, and, considering the large stake they had in the Northern district, it was likely the committee would endeavour to face the difficulties in the way of improving that part of the city. With reference to the development of the scheme of City Improvement, while, financially, one-third of the project was off their hands, yet it must be kept in view, that although the committee had sold a large portion of the property acquired, the demolition of such property had been little more than begun. For instance, the Havannah property (situate in a low and dirty portion of the city) was sold, and would be demolished; but at the present time only a limited proportion of the population had been displaced. Main-street, Gorbals, was in the same condition. So that the sanitary advantages so far derived from the scheme could not properly be estimated at anything like one-third. He would put them more nearly at one-sixth. They had demolished 3,058 houses, which at the rate of five persons to the house, would mean the displacement of 15,425 people. When, however, the whole of the demolitions were effected, they would be better able to judge of the sanitary effects. Already an appreciable improvement had taken place, which assertion the Bailie proceeded to prove by a reference to the death-rate, density of the population, and other matters of which the Registrar-General had presented returns. In the course of a discussion which followed this statement, Mr. Waddell suggested that means should be adopted to prevent the erection of back tenements too near the front ones, as, if that practice was not checked, it would lead to the necessity for a new improvement scheme in Glasgow. It was eventually decided that an assessment should be laid at the rate of 2d. in the pound.

At the usual meeting of the Dean of Guild Court, which supervises the erection of new buildings in Glasgow, the Dean of Guild (Mr. Playfair), whose term of office is about to expire, made an interesting statement as to the business which had occupied the attention of the Court during the last two years. It appeared, from the dean's remarks, that the number of applications before the Court for the formation of new streets was 33; applications for the erection of new buildings, 778; for alterations of buildings, 358; and cases from the Fiscal, 101 (during last year alone); making a total of 1,169, nearly the whole of which had been disposed of. The new buildings sanctioned by the Court consisted of,—dwelling-houses of one apartment, 2,419; two apartments, 4,323; three apartments, 1,580; four apartments, 407; five apartments, 80; six apartments and upwards, 46; single shops, 657; double shops, 383; churches, mission-halls, and schools, 49; warehouses, stores, and workshops, 442; alterations in buildings, 358. The aggregate value of all the property was estimated at 2,556,364*l*. Having thanked the officials, the Dean said he thought it would be admitted by all connected with, or who had practice in that Court, that its constitution was admirably adapted to meet the business brought before it. The procedure was inexpensive, prompt, and upon the whole gave satisfaction to the public and the profession generally. This was apparent from the circumstance that only five, or at most six cases were appealed against in the Supreme Court, and by the ultimate decisions of that court affirming, in every instance, the decision of the Dean of Guild Court, excepting one, and that only partially altered as to one of the findings. He hoped it would long remain an efficient tribunal, for it would be an evil day for Glasgow were that Court overturned. Had the Court power, he could suggest that the application of the law which now obtained as to dwelling-houses should be extended to warehouses and workshops,—he meant in having a fixed minimum of free space in front of the windows of such buildings, where many persons spend the greater part of their existence. It was true that by the Police Act of 1866 the Court had authority to see that proper ventilation was observed in such buildings, but this discretion was so arbitrary, that no specific rule had been adopted, whether having regard to the nature of the business conducted in the respective buildings, or to the number of persons employed.

SOCIAL SCIENCE.

We continue our selection of passages from papers read at the Glasgow Congress.

Pollution of Rivers.

General Scott, C.B., read a paper on the subject, replying to the question, "What should be the extent of immediate legislation to restrain the pollution of rivers?" In the course of it he said:—Whilst fully persuaded that, in inland towns at least, irrigation or filtration through large masses of earth will prove to be the most satisfactory means that can be adopted for the ultimate purification of sewage, I entertain a strong conviction that it would be a serious error, in the present condition of the question, to force its adoption universally; and indeed I doubt whether it should be made compulsory in any case until greater experience of its effects than we at present possess has been gained. So long as there is a possibility of the House of Commons upsetting, as in the Birmingham case, well-devised measures for irrigation, on the representation of the injury that might be inflicted on landowners, the country cannot be looked upon as being ripe for insisting upon the complete purification of sewage water.

It is not correct to assume that Royal Commissions have proposed irrigation to the exclusion of all other modes of dealing with sewage. There is undoubtedly "a mistake here," into which local authorities are only too prone to fall when an excuse is wanted for doing nothing. The early reports of the Royal Commissioners to inquire into the best mode of distributing the sewage of towns point out clearly what may be reasonably expected to be done, without reference to irrigation, for the amelioration of the condition of rivers; and state the grounds on which they make their recommendations.

If "the chief part" of such evils is to "be obviated by arresting merely the solid matter in suspension in the liquid," why should so simple an expedient have been so long neglected? Is it not, indeed, intolerable that local authorities should for the last sixteen years, with this report before them, have persisted that they are at a loss how to make any improvement?

With the evidence before us, it is absurd to assert that local authorities are without guidance, and to argue that, because they cannot be sure whether this or that would prove the more economical method of dealing with their sewage, they should be allowed to sit with their arms folded, and wait for something to turn up to relieve them of the cost of doing what they ought to set about at once.

Except in small country places, it would manifestly be advisable that provision should be made not only for compelling the removal of the solids from sewage, but for their deodorisation by lime or some other equally efficacious means.

In considering whether legislation should be carried further than to make it imperative to remove the solids from sewage-water, it must not be forgotten that the use of precipitants secures the triple advantage of complete precipitation of the suspended matters, the more or less complete deodorisation of the deposit and the liquid effluent, and the removal from the liquid of more than one-half of the dissolved nitrogen, which is its most offensive element.

We have the greatest authorities on the subject (agriculturists, chemists, medical men, and engineers) all concurring in recommending as a preliminary to the ultimate and complete purification by land the very processes which Royal Commissions have declared to "offer remedial measures of a very satisfactory character." What possible objections, then, can town authorities have to offer to the adoption of a precipitation plan, or, at all events, of a subsidence system, excepting those suggested by fear of increasing the rates? The argument that they do not know the degree of purification which may hereafter be required of them has little weight when it is seen that some method of removing the solids, which cannot be accomplished without depositing-tanks, is the first thing to be accomplished in any case. And the Government might, without any fear of having to retrace its steps or modify its decisions, confi-

dently make a stand here, and enact that, excepting in heavy thunderstorms, no sewage shall be cast into any river or stream if it contains in suspension more than a certain amount of matter per gallon. Might it not safely go so far as to adopt the decision of the Parliamentary Committee on the Birmingham Sewerage Bill, and enact that, in the vicinity of dwellings, "no sewage be put upon any land without having been previously defecated in tanks"?

This would compel the adoption of either precipitation or irrigation and earth filtration, or both, and the stumbling-block of a standard which cannot always be attained will be done away with. It should be borne in mind, too, that though irrigation is, when well carried out, a complete remedy, perfect management cannot always be secured in practice. In such cases of failure the previous precipitation proves an important safeguard. Sewage farmers, even with severe penalties before their eyes, will certainly turn the sewage into the nearest brook when their land is in danger of being waterlogged in wet weather. They will run the risk of detection and possible penalty rather than encounter a certain evil in the loss of their crops. And even if farmers could be relied on to do their duty, other causes of failure intervene. We read in the Reports of the Rivers Pollution Commissioners that, at Banbury, "The soil tends to crack in dry weather, thus giving the sewage direct access to underground drains, and thence to the river, before it has been properly acted upon by the soil." They found that, at Norwood, the "removal" (in the month of January) of offensive nitrogenous organic matter was partially arrested, "and indicating that during a severe winter the purification of sewage upon non-absorptive clay-soil may be seriously interfered with." They found, also, "exceptionally impure water" from the Norwood farm at other periods of the year, and at Croydon, as at Norwood, during frost the purification "became markedly impaired."

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General Scott deduced from the reports of the Royal Commissions now in the hands of all those really seeking information and guidance:—

1st. That "a great and manifest good" will be effected, and "the chief part of the nuisance arising from the discharge of sewage into rivers and streams may be obviated by simply arresting the solid matter in suspension in the liquid."

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5th. "That sewage irrigation cannot be carried out from the utilisation point of view without storage tanks," and that the liquid is, in the generality of cases, preferred by the farmer when freed from solids and slimy compounds—it becomes difficult for towns to show just cause why they should not be peremptorily and at once restrained from the further contamination of rivers by the sedimentary matters of sewage.

In conclusion, he asks this question:—Since the simple measures recommended by the Royal Commissioners will "greatly mitigate the existing evils"—(I use their own words)—"practically rid us of the danger and nuisance of town sewage," may we not reasonably hope that a Ministry which has promised sanitary legislation will listen to an urgent appeal to have these measures enforced? There would be no necessity that legislation should altogether stop at this point. When all the offending towns in the country have been compelled to comply with a low standard of purity, a higher one may be attempted with some chance of success. To insist upon absolute, or nearly perfect, purity now, however, would end in leaving matters as they are.

Domestic Economy.

Mrs. E. M. King, whose scheme of co-operative housekeeping has been the subject of discussions at the Bri ish Association, read a paper on "The Science of Domestic Economy." The object of the paper was to show that domestic economy could be raised into a science equal in importance to political economy, and that the domestic arts could not be rightly performed until this was done. Social economy covered the whole field of economics, of which political and domestic economy were the two parts. Political economy related to the production and distribution of wealth; domestic economy to its distribution and consumption. The former had received the attention of great philosophers, the latter received no attention; first, because the domestic arts or duties had been thought too simple to need the aid of science; and, second, because no money value had been attached to the performance of these arts. There was an ever-growing demand for a field of remunerative work for women. Why not make their own field remunerative? Ladies do not become servants for the reason that there was no possibility of rising from that position. Through a knowledge of domestic economy such a possibility would be created. The need of science and art in one department of domestic work—cooking—had been fully admitted, but exclusive attention had not been given to that subject. The idea that every woman should know how to cook was a mistake, offending against the economic principle of the division of labour. The head of the domestic establishment, she would have to be an engineer in the largest sense of the term. Referring to woman's dress, she observed,—Women, it is said, and I think rightly, appear to be almost, if not entirely, destitute of the inventive or original faculty. The reason for this I apprehend to be that as yet they have had no world open to them in which the inventive powers were required; and men must also remember that they never could have found leisure for the discovery of sciences, nor for the invention of arts, if women had not in the beginning attended to all the various and incessant cares of domestic life. Men have been able to create paying trades only through women having done these works before they became trades without pay. There is another special feminine art which, as an art, has never yet been practised. Ladies may be surprised when I say that this is dress. There is enough money and enough valuable material, but no art, still less science, is there to guide this expenditure. I am not one of those who declaim against dress: all nature is beautifully dressed; and there is no reason why man, the only animal left to provide and select his own covering, should not seek to gratify his highest sense of beauty in his attire. But beauty sought at the expense of usefulness is altogether a mistake. Dress, in the first place, should be adapted to the different climates and temperatures in which it is required to be worn; second, adapted to the body upon which it is to be worn, impeding no motion, confining no muscle, cramping no vital organ, and also not tending to waste any of the physical forces of the body by being of superfluous weight; and third, and lastly, it should be adapted to gratify our sense of beauty. To combine both use and beauty in dress would require a considerable knowledge both of science and art. With men's dress it is apparent that use and convenience have alone been studied; the desire for beauty has been completely ignored. Neither beauty of form nor of colour has been sought, and the result is usefulness and convenience to a great degree, but absence of beauty, or what may be called negative ugliness. Women seem to have desired only beauty in dress, and have attained some little appreciation of proper colouring, but having been ignorant or careless of adapting it to the use, convenience, or health of the body, their method of dress is not only hurtful, but the beauty of their natural form has been quite lost sight of. The result is a ridiculous caricature of the figure, producing not only negative, but positive ugliness. We can see this in every fashion but the one our eyes are accustomed to in the present. This deforming of the figure by dress may not be caused by women's deficiency in taste or artistic perception; but owing to their ignorance of the structure and functions of the body, a knowledge of fitness or appropriateness, which is the true foundation of beauty, was not possible to them. Moreover, in the department of taste women have very little control. It is trade which regulates and stimulates fashion, and women in their dress may be said not to be guided by the rudder of their own good sense or taste, but to be blown about by the variations of the trade-winds.

On the Epidemic in Golden-square, A.D. 1854.

Mr. W. J. Cooper, in a paper on this subject, said,—Macaulay records that, east of Regent-street, opposite Conduit-street, was a field not to be passed without a shudder by any Londoner. There, in a place far from the haunts of man, had been dug a pit, into which the dead carts had nightly shot corpses by the score. It was popularly believed that the earth was deeply tainted with infection, and could not be disturbed without imminent risk to human life. The *Lancet* of September 16 states:—"The plague-pit alluded to by Macaulay is situated within the area bounded by Argyll-place, King-street, Tyler-street, Little Marlborough-street being directly over the pit. In excavating for sewers sometime since, the ground disturbed was found to consist of black decayed animal matter mixed with bones. On discovering this, precaution was taken not to remove more of it than possible. In the spring of 1854, excavations were made on this very spot, and this hoard of infection was laid open for months to 'breathe out contagion to the world.'"

It may prove fortunate for a future generation that the belief in the pernicious effect of sewer-gases is gaining ground, and that in the course of time some sound efforts will be made to prevent the formation in the sewers of this deadly and subtle poison. It is only two years ago last August that a professor of hygiene, of University College, stated publicly that sewer-gas was harmless; it is to be hoped that experience has since improved his knowledge in that respect. In the Public Medicine Section of the British Medical Association at Norwich this year, I was glad to observe that the tendency of discussion showed that medical officers of health were quite alive to the dangers arising from all foul emanations.

That the Golden-square outbreak was aggravated, encouraged, and reached its culminating point from such causes, I have no doubt, and my opinions are shared by those whose professional vocations obliged them to reside, at the time of the epidemic, in the heart of the plague-stricken locality. It is not surprising, after the facts I have described, that wells should be discovered containing polluted water; but, I am convinced that the fact of the opening of the plague pit, and other sewer excavations, thus adding impurities, for six months previously to the outbreak, to an atmosphere already tainted with the usual amount of sewer emanation, so lowered the vital tone of the inhabitants, that they fell easy victims to the cholera poison and its powerful allies, the products of decomposition. If the timely warnings had been taken, and preventive measures carried out, the horrors I have depicted, and to which I was to some extent an eye-witness, would, in all probability, never have occurred.*

ROMAN IMPERIAL PROFILES.

Mr. J. E. Lee, of Torquay, has arranged and overlooked the publication of a series of lithographed profiles of the Roman Emperors,† enlarged from coins by Mr. C. E. Croft, artist, of the same neighbourhood. The editor is quite right in saying that such a collection would be highly interesting, supposing that the profiles in their enlarged form are reliable. It cannot be denied, however, that in regard to this we are open to a double chance of error; the possible incorrectness of the coin as a likeness, in the first place, and the modification of the features and expression in the process of enlarging from a coin generally small to begin with, and mostly worn and effaced, to some extent, by wear when in use, or decay afterwards. The editor admits, indeed, that the artist has intentionally corrected defects in the representation and drawing of the eye, which are common in the effigies of Roman coins; but this, as he says with some reason, "can hardly be called a departure from the original."

On the whole, however, the aspect of these profiles leads to the conclusion that they were,

* Our own investigations at the time served to show that the disease was spread by the use of water from one particular pump into the well of which sewer matter obtained entrance. It is too late now, however, to re-open this inquiry.—Ed.

† Roman Imperial Profiles: being a Series of more than One Hundred and Sixty lithographic Profiles enlarged from Coins. Arranged by John Edward Lee, F.S.A., F.G.S. Longmans, Green, & Co.

in their original form, tolerably faithful representations of their originals. A peculiar projection and rotundity of the chin in the majority of cases gives, on hastily turning over the book, a certain appearance of family likeness to the various heads, which, as empire in those days was anything but hereditary, suggests the idea of a degree of conventional treatment. But it is easier to conclude that this was a usual type of Roman chin, than to imagine that features so characteristic and marked, as in the heads of Pompey, Trajan, Nerva, Æmilian, Valerian, and Titus, should have been evoked in any degree out of the inner consciousness of an artist in dies, especially as some of them are anything but flattering; and one of the strongest instances of likeness occurring, between the heads on plates 121, 122, and 124, is between emperors who really were connected by family.

It is curious to compare some of these heads with their characters in history, with which in some instances they seem as much at variance, as in other cases they are markedly in accordance. Compare the heads of Pompey the Great and Nero, and "which is the justice, which is the thief?" Though, after all, the head of the tyrant, in spite of its handsome features, has a fat, sensual look not out of keeping with the miserable name he has left. The head of Cleopatra must certainly be a likeness, and that of Antony too, with its long fleshy nose and full under-lip and chin, the type of a self-indulgent nature; and one cannot look at the likeness of Lepidus without recalling the lines in Shakspeare (who followed Plutarch in these characters),—

"This is a slight unmeritable man,
Meet to be sent on errands,"—

and the scene on board Pompey's galley, where the triumvir got so foolishly drunk. Brutus is a head we should not like to trust ourselves to,—peevish and decidedly unsympathetic. The heads of Agrippa and Augustus are grand in type, but look a little more conventional than some of the others. The contrast between the physiognomy of Antinous and Marcus Aurelius, the handsome voluptuary and the religious philosopher, is, like that between Nero and Pompey, suggestive as to the relation between moral and physical excellence. The head of Aurelius would certainly be styled a weak one, though very amiable. Postumus was a provincial (of Gaul), who rose from the ranks, and his plough-tail origin is in every line of his face. Among other notable heads is that of Titus, whom one would take to be a kind of Marshal Bazaine of his day, carrying on war with due regard to the comfort of the general, but a man who would have his way. The heads of Hadrian and Domitian are remarkably fine, the latter showing no indication of his worse than unmanly qualities; Hadrian is such a head as Titian would have liked for a portrait. Vespasian has the look of an eminent French *savant*, and Elagabalus is a head that might have come out of Exeter Hall. A short note as to the parentage and life of each emperor is appended to a collection which affords a good deal for interesting reflection, if it be admitted, as we are inclined to think, that a considerable portion of the portraits, at least, are probably fairly representative. The particular coin which is the authority for each is named.

CHURCHES AND THE CHURCH CONGRESS.

On the day devoted by the Congress to a consideration of the adaptation of the fabrics to the wants of the times,

Mr. Beresford Hope said,—We have in England inherited a priceless treasure of old religious buildings from our Church in its unreformed condition, and as happily the English Reformation involved no breach of continuity—as it purified but did not reconstruct—these churches in the main have served right well for our present use. Still there arose those differences between the older and newer Church of England which ought to make a church provided for this generation something different from one which had been built for the Middle Ages. The modern English church ought, he said, to be simple in its plan and congregational in its working arrangements. The church intended to supply the claims of English use must be broad in proportion to the number for which it is intended; for if the nave be narrow, it must also be by so much too long that many would be thrust out of ear-shot and eye-shot of psalm or altar service. There was no reason, beyond the prejudice which such a novelty might excite, why at times one should not construct a circular or a polygonal nave. The Temple Church was precedent enough, and the glorious decagon of St. Gereon, Cologne, would hold a goodly multitude. There were no more congregational naves anywhere than the octagon of Ely and the dome of St. Paul's. Breadth in an oblong church might be reached in more than one way. The simplest was a very wide area and no aisles. He quite accepted the plan in its own place, but no one, he hoped, would desire to see aisles altogether disused. He had had no time to discuss the question of chairs or benches—both are good in their respective ways. Generally speaking, the choir, a chancel proper, ought not to be much elevated above the nave. Practically the rising of it would be found inconvenient for those hearty congregational services to which he was looking. If, however, the chancel ought to be but very little raised above the nave, still it ought to be clearly distinguished from it, and this distinction the Church of England offered in her ceremonial orders, and carried out in her practice. Generally, he would say, that the architect who did not contrive that the altar was the crown of the church, and who did not believe that the holy mysteries celebrated there exceeded all other acts of worship, so the altar should exceed all other parts of the church, so the richest resources of art should congregate there, the line of sight from every part of the church converge there—that man had mi-taken his craft, and never would succeed in building up a worthy House of God.

Mr. Street, in a paper on the subject, urged that the old churches had been built for services different only in detail from ours. Their great object was the celebration of the Eucharist; all other wants were made merely accessories. Scarcely a single change was required to adapt them to our offices. Our cathedrals had been less altered than any in Christendom, yet their use might often be improved. They had existed only for choir services, and a better adaptation of their magnificent interiors to the wants of the day would invite the removal of all modern pews and seats from the choir, the separation of the clergy from the laity, the removal of the close screen which so often divided the nave from choirs, and the erection of open screens in their place. The removal of the close screen was the one serious alteration required, for while it was allowed to remain great shifts and contrivances had to be resorted to in order to substitute some other plan for the use of the nave. Surely, even for special services in the nave, the service was most natural and most edifying which was said before the altar, and it was seldom worth while to have two distinct and separate arrangements for services in the nave and in the choir, as at Westminster Abbey. Then, again, why should not we more often use the aisles of a cathedral for processions? Cathedrals were built, he added, for the daily service of Holy Communion, and it would be a wise thing in his opinion to encourage the formation of guilds to say their prayers in some side chapels or aisles. As to the parish churches he thought they should be considered with a view to the glory of God and not the comfort of the worshippers, screens were used æsthetically, as lending an air of mystery to the chancel, and sometimes the removal of a tower was needed in the adaptation of an old church to modern uses. The restoration of the old lofts on the top of the screens would, he thought, be as useful as it would be ornamental. One difficulty in dealing with old churches was their frequently inconvenient shape, of which the commonest example was the old cruciform. Where the chancel was large, and cut off from the nave by small tower-arches and large piers, he should suggest a good plan to adopt would be to use the chancel-altar for important services (where, with the assistance of the choir, the service might be heard), and to provide a second altar in the nave, in a side chapel or in a transept, where the daily celebrations of the Holy Communion might be had, with the advantage to communicants of being gathered near the altar, and being able to see as well as to hear. Another alteration which was sometimes necessary, was the arrangement of an altar and choir-seats at the east end of the nave or under the central tower for the principal services, and of the old altar in the chancel for the low or daily offices. Wherever placed, he might add, the altar should be protected by gates in the screens, not only at the west, but also at the sides of the choir and chancel.

The Rev. W. Cadman, with respect to the fabrics of our churches, maintained that the great and true attraction was the proclamation of the pure word of God. He did not think that such proclamation could be carried out in Roman Catholic structures, and he prayed that from every tinge of Papistry the fabrics of the Church might be preserved.

Professor Donaldson charged Mr. Hope with having omitted all reference to the Lord's table. Which had the more honoured significance, he would ask, the table of the Lord or the altar of the saint? The speaker denounced reredoses and baldacchinos.

COVERING IN COVENT GARDEN MARKET.

An improvement, which has long been desired, both on the part of the public and the market tradesmen, is now being carried out at Covent-garden Market. The spacious open area of the south side of the market, extending from east to west, to the extent of nearly 200 ft. in length, and about 60 ft. in width, is receiving a roof, which will promote the convenience and comfort of those using the market. The contractors who are executing the work, which is being carried out at the cost of the Duke of Bedford, the owner of the market, are Messrs. Cubitt & Co. The covering consists of a roof formed of iron and glass, in a single semicircular span of about 80 ft. in width and upwards of 50 ft. in height from the ground to the apex. The covering is carried on twenty circular ribs of iron, springing from iron columns on each side of the market, 20 ft. in height. A framework of iron, 10 ft. in height, above the market walls, in divisions 4 ft. in width, with a circular head, is also carried up above the columns. This space will be left open for ventilation purposes, and the roof will lap over it on each side to the extent of 4 ft. The glass covering, of which the roof will be largely composed, will give light to the interior of the market. The work is being prosecuted without at all interfering with the business of the market, by the aid of a travelling stage, moving on wheels, and along a tramway, which has been erected on the spot for the purpose. Four of the circular iron arches or spans have already been fixed in their places, and the work is being rapidly carried forward.

THE LIMA AND PISCO RAILWAY.

The contract for the construction of the Lima and Pisco Railway, Peru, 145 miles long, tapping the rich and productive valleys and sugar plantations between Surco Chorrillos, Lurin, Mala, Coayllo, Canete, Chincha Alla, and Chincha Maja, and connecting the important towns of Lima and Pisco with the now flourishing shipping ports of Callao and Pisco, on the Peruvian coast, has been taken by Mr. Robert Walker, contractor and engineer, of Victoria-street, Westminster, the Peruvian Government having granted a concession, giving the land and guaranteeing 1,040,000*l.* towards the work, which will be proceeded with forthwith, and the railway will be completed in three years.

OPENING OF NEW MUSEUM AND LIBRARY AT WELSHPOOL.

The ceremony incidental to the opening of the Powisland Museum and Library at Welshpool has taken place in presence of a large number of promoters and well-wishers of the undertaking.

The museum building, which is situated in Church-street, has not much that can be called ornamental, but it is not unworthy of the use to which it will be put. The museum is under the "wing" of the Powisland Club. The new building consists of a wide entrance-porch leading into the museum, which is 42 ft. long by 26 ft. wide, and 27 ft. in height to the ridge of the roof, from which it is lighted, the walls being designedly left unbroken for the reception of wall-cases, and the exhibition of works of antiquarian interest. The roof internally is open-timbered, and plastered under the spars, the walls being coloured a light grey tint, and the fittings being painted a dead black or ebony colour, fully to display the objects of interest they contain. The exterior of the building is Gothic in style, and built entirely of light yellow brick, the cornices and other features being of moulded brick, and the external entrance-door of oak with hinges. The tympanum in centre of front arcade contains a carved representation, by

dently make a stand here, and enact that, excepting in heavy thunderstorms, no sewage shall be cast into any river or stream if it contains in suspension more than a certain amount of matter per gallon. Might it not safely go so far as to adopt the decision of the Parliamentary Committee on the Birmingham Sewerage Bill, and enact that, in the vicinity of dwellings, "no sewage be put upon any land without having been previously defecated in tanks"?

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In conclusion, he asks this question:—Since the simple measures recommended by the Royal Commissioners will "greatly mitigate the existing evils"—(I use their own words)—"practically rid us of the danger and nuisance of town sewage," may we not reasonably hope that a Ministry which has promised sanitary legislation will listen to an urgent appeal to have these measures enforced? There would be no necessity that legislation should altogether stop at this point. When all the offending towns in the country have been compelled to comply with a low standard of purity, a higher one may be attempted with some chance of success. To insist upon absolute, or nearly perfect, purity now, however, would end in leaving matters as they are.

Domestic Economy.

Mrs. E. M. King, whose scheme of co-operative housekeeping has been the subject of discussions at the Bri ish Association, read a paper on "The Science of Domestic Economy." The object of the paper was to show that domestic economy could be raised into a science equal in importance to political economy, and that the domestic arts could not be rightly performed until this was done. Social economy covered the whole field of economics, of which political and domestic economy were the two parts. Political economy related to the production and distribution of wealth; domestic economy to its distribution and consumption. The former had received the attention of great philosophers, the latter received no attention; first, because the domestic arts or duties had been thought too simple to need the aid of science; and, second, because no money value had been attached to the performance of these arts. There was an ever-growing demand for a field of remunerative work for women. Why not make their own field remunerative? Ladies do not become servants for the reason that there was no possibility of rising from that position. Through a knowledge of domestic economy such a possibility would be created. The need of science and art in one department of domestic work—cooking—had been fully admitted, but exclusive attention had not been given to that subject. The idea that every woman should know how to cook was a mistake, offending against the economic principle of the division of labour. The head of the domestic establishment, she would have to be an engineer in the largest sense of the term. Referring to woman's dress, she observed,—Women, it is said, and I think rightly, appear to be almost, if not entirely, destitute of the inventive or original faculty. The reason for this I apprehend to be that as yet they have had no world open to them in which the inventive powers were required; and men must also remember that they never could have found leisure for the discovery of sciences, nor for the invention of arts, if women had not in the beginning attended to all the various and incessant cares of domestic life. Men have been able to create paying trades only through women having done these works before they became trades without pay. There is another special feminine art which, as an art, has never yet been practised. Ladies may be surprised when I say that this is dress. There is enough money and enough valuable material, but no art, still less science, is there to guide this expenditure. I am not one of those who declaim against dress: all nature is beautifully dressed; and there is no reason why man, the only animal left to provide and select his own covering, should not seek to gratify his highest sense of beauty in his attire. But beauty sought at the expense of usefulness is altogether a mistake. Dress, in the first place, should be adapted to the different climates and temperatures in which it is required to be worn; second, adapted to the body upon which it is to be worn, impeding no motion, confining no muscle, cramping no vital organ, and also not tending to waste any of the physical forces of the body by being of superfluous weight; and third, and lastly, it should be adapted to gratify our sense of beauty. To combine both use and beauty in dress would require a considerable knowledge both of science and art. With men's dress it is apparent that use and convenience have alone been studied; the desire for beauty has been completely ignored. Neither beauty of form nor of colour has been sought, and the result is usefulness and convenience to a great degree, but absence of beauty, or what may be called negative ugliness. Women seem to have desired only beauty in dress, and have attained some little appreciation of proper colouring, but having been ignorant or careless of adapting it to the use, convenience, or health of the body, their method of dress is not only hurtful, but the beauty of their natural form has been quite lost sight of. The result is a ridiculous caricature of the figure, producing not only negative, but positive ugliness. We can see this in every fashion but the one our eyes are accustomed to in the present. This deforming of the figure by dress may not be caused by women's deficiency in taste or artistic perception; but owing to their ignorance of the structure and functions of the body, a knowledge of fitness or appropriateness, which is the true foundation of beauty, was not possible to them. Moreover, in the department of taste women have very little control. It is trade which regulates and stimulates fashion, and women in their dress may be said not to be guided by the rudder of their own good sense or taste, but to be blown about by the variations of the trade-winds.

On the Epidemic in Golden-square, A.D. 1854.

Mr. W. J. Cooper, in a paper on this subject, said,—Macaulay records that, east of Regent-street, opposite Conduit-street, was a field not to be passed without a shudder by any Londoner. There, in a place far from the haunts of man, had been dug a pit, into which the dead carts had nightly shot corpses by the score. It was popularly believed that the earth was deeply tainted with infection, and could not be disturbed without imminent risk to human life. The *Lancet* of September 16 states:—"The plague-pit alluded to by Macaulay is situated within the area bounded by Argyll-place, King-street, Tyler-street, Little Marlborough-street being directly over the pit. In excavating for sewers sometime since, the ground disturbed was found to consist of black decayed animal matter mixed with bones. On discovering this, precaution was taken not to remove more of it than possible. In the spring of 1854, excavations were made on this very spot, and this hoard of infection was laid open for months to 'breathe out contagion to the world.'"

It may prove fortunate for a future generation that the belief in the pernicious effect of sewer-gases is gaining ground, and that in the course of time some sound efforts will be made to prevent the formation in the sewers of this deadly and subtle poison. It is only two years ago last August that a professor of hygiène, of University College, stated publicly that sewer-gas was harmless; it is to be hoped that experience has since improved his knowledge in that respect. In the Public Medicine Section of the British Medical Association at Norwich this year, I was glad to observe that the tendency of discussion showed that medical officers of health were quite alive to the dangers arising from all foul emanations.

That the Golden-square outbreak was aggravated, encouraged, and reached its culminating point from such causes, I have no doubt, and my opinions are shared by those whose professional vocations obliged them to reside, at the time of the epidemic, in the heart of the plague-stricken locality. It is not surprising, after the facts I have described, that wells should be discovered containing polluted water; but, I am convinced that the fact of the opening of the plague pit, and other sewer excavations, thus adding impurities, for six months previously to the outbreak, to an atmosphere already tainted with the usual amount of sewer emanation, so lowered the vital tone of the inhabitants, that they fell easy victims to the cholera poison and its powerful allies, the products of decomposition. If the timely warnings had been taken, and preventive measures carried out, the horrors I have depicted, and to which I was to some extent an eye-witness, would, in all probability, never have occurred.*

ROMAN IMPERIAL PROFILES.

Mr. J. E. Lee, of Torquay, has arranged and overlooked the publication of a series of lithographed profiles of the Roman Emperors,† enlarged from coins by Mr. C. E. Croft, artist, of the same neighbourhood. The editor is quite right in saying that such a collection would be highly interesting, supposing that the profiles in their enlarged form are reliable. It cannot be denied, however, that in regard to this we are open to a double chance of error; the possible incorrectness of the coin as a likeness, in the first place, and the modification of the features and expression in the process of enlarging from a coin generally small to begin with, and mostly worn and effaced, to some extent, by wear when in use, or decay afterwards. The editor admits, indeed, that the artist has intentionally corrected defects in the representation and drawing of the eye, which are common in the effigies of Roman coins; but this, as he says with some reason, "can hardly be called a departure from the original."

On the whole, however, the aspect of these profiles leads to the conclusion that they were,

* Our own investigations at the time served to show that the disease was spread by the use of water from one particular pump into the well of which sewer matter obtained entrance. It is too late now, however, to re-open this inquiry.—Ed.

† Roman Imperial Profiles: being a Series of more than One Hundred and Sixty lithographic Profiles enlarged from Coins. Arranged by John Edward Lee, F.S.A., F.G.S. Longmans, Green, & Co.

in their original form, tolerably faithful representations of their originals. A peculiar projection and rotundity of the chin in the majority of cases gives, on hastily turning over the book, a certain appearance of family likeness to the various heads, which, as empire in those days was anything but hereditary, suggests the idea of a degree of conventional treatment. But it is easier to conclude that this was a usual type of Roman chin, than to imagine that features so characteristic and marked, as in the heads of Pompey, Trajan, Nerva, Æmilian, Valerian, and Titus, should have been evoked in any degree out of the inner consciousness of an artist in dies, especially as some of them are anything but flattering; and one of the strongest instances of likeness occurring, between the heads on plates 121, 122, and 124, is between emperors who really were connected by family.

It is curious to compare some of these heads with their characters in history, with which in some instances they seem as much at variance, as in other cases they are markedly in accordance. Compare the heads of Pompey the Great and Nero, and "which is the justice, which is the thief?" Though, after all, the head of the tyrant, in spite of its handsome features, has a fat, sensual look not out of keeping with the miserable name he has left. The head of Cleopatra must certainly be a likeness, and that of Antony too, with its long fleshy nose and full under-lip and chin, the type of a self-indulgent nature; and one cannot look at the likeness of Lepidus without recalling the lines in Shakspeare (who followed Plutarch in these characters),—

> "This is a slight unmeritable man,
> Meet to be sent on errands,"—

and the scene on board Pompey's galley, where the triumvir got so foolishly drunk. Brutus is a head we should not like to trust ourselves to,—peevish and decidedly unsympathetic. The heads of Agrippa and Augustus are grand in type, but look a little more conventional than some of the others. The contrast between the physiognomy of Antinous and Marcus Aurelius, the handsome voluptuary and the religious philosopher, is, like that between Nero and Pompey, suggestive as to the relation between moral and physical excellence. The head of Aurelius would certainly be styled a weak one, though very amiable. Postumus was a provincial (of Gaul), who rose from the ranks, and his plough-tail origin is in every line of his face. Among other notable heads is that of Titus, whom one would take to be a kind of Marshal Bazaine of his day, carrying on war with due regard to the comfort of the general, but a man who would have his way. The heads of Hadrian and Domitian are remarkably fine, the latter showing no indication of his worse than unamiable qualities; Hadrian is such a head as Titian would have liked for a portrait. Vespasian has the look of an eminent French *savant*, and Elagabalus is a head that might have come out of Exeter Hall. A short note as to the parentage and life of each emperor is appended to a collection which affords a good deal for interesting reflection, if it be admitted, as we are inclined to think, that a considerable portion of the portraits, at least, are probably fairly representative. The particular coin which is the authority for each is named.

CHURCHES AND THE CHURCH CONGRESS.

On the day devoted by the Congress to a consideration of the adaptation of the fabrics to the wants of the times,

Mr. Beresford Hope said,—We have in England inherited a priceless treasure of old religious buildings from our Church in its unreformed condition, and as happily the English Reformation involved no breach of continuity—as it purified but did not reconstruct—these churches in the main have served right well for our present use. Still there arose those differences between the older and newer Church of England which ought to make a church provided for this generation something different from one which had been built for the Middle Ages. The modern English church ought, he said, to be simple in its plan and congregational in its working arrangements. The church intended to supply the claims of English use must be broad in proportion to the number for which it is intended; for if the nave be narrow, it must also be by so much too long that many would be thrust out of ear-shot and eye-shot of psalm or altar service. There was no reason, beyond the prejudice which such a novelty might excite, why at times one should not construct a circular or a polygonal nave. The Temple Church was precedent enough, and the glorious decagon of St. Gereon, Cologne, would hold a goodly multitude. There were no more congregational naves anywhere than the octagon of Ely and the dome of St. Paul's. Breadth in an oblong church might be reached in more than one way. The simplest was a very wide area and no aisles. He quite accepted the plan in its own place, but no one, he hoped, would desire to see aisles altogether disused. He had had no time to discuss the question of chairs or benches—both are good in their respective ways. Generally speaking, the choir, a chancel proper, ought not to be much elevated above the nave. Practically the rising of it would be found inconvenient for those hearty congregational services to which he was looking. If, however, the chancel ought to be but very little raised above the nave, still it ought to be clearly distinguished from it, and this distinction the Church of England offered in her ceremonial orders, and carried out in her practice. Generally, he would say, that the architect who did not contrive that the altar was the crown of the church, and who did not believe that the holy mysteries celebrated there exceeded all other acts of worship, so the altar should exceed all other parts of the church, so the richest resources of art should congregate there, the line of sight from every part of the church converge there—that man had mi taken his craft, and never would succeed in building up a worthy House of God.

Mr. Street, in a paper on the subject, urged that the old churches had been built for services different only in detail from ours. Their great object was the celebration of the Eucharist; all other wants were made merely accessories. Scarcely a single change was required to adapt them to our offices. Our cathedrals had been less altered than any in Christendom, yet their use might often be improved. They had existed only for choir services, and a better adaptation of their magnificent interiors to the wants of the day would invite the removal of all modern pews and seats from the choir, the separation of the clergy from the laity, the removal of the close screen which so often divided the nave from choirs, and the erection of open screens in their place. The removal of the close screen was the one serious alteration required, for while it was allowed to remain great shifts and contrivances had to be resorted to in order to substitute some other plan for the use of the nave. Surely, even for special services in the nave, the service was most natural and most edifying which was said before the altar, and it was seldom worth while to have two distinct and separate arrangements for services in the nave and in the choir, as at Westminster Abbey. Then, again, why should not we more often use the aisles of a cathedral for processions? Cathedrals were built, he added, for the daily service of Holy Communion, and it would be a wise thing in his opinion to encourage the formation of guilds to say their prayers in some side chapels or aisles. As to the parish churches he thought they should be considered with a view to the glory of God and not the comfort of the worshippers, screens were used æsthetically, as lending an air of mystery to the chancel, and sometimes the removal of a tower was needed in the adaptation of an old church to modern uses. The restoration of the old lofts on the top of the screens would, he thought, be as useful as it would be ornamental. One difficulty in dealing with old churches was their frequently inconvenient shape, of which the commonest example was the old cruciform. Where the chancel was large, and cut off from the nave by small tower-arches and large piers, he should suggest a good plan to adopt would be to use the chancel-altar for important services (where, with the assistance of the choir, the service might be heard), and to provide a second altar in the nave, in a side chapel or in a transept, where the daily celebrations of the Holy Communion might be had, with the advantage to communicants of being gathered near the altar, and being able to see as well as to hear. Another alteration which was sometimes necessary, was the arrangement of an altar and choir-seats at the east end of the nave or under the central tower for the principal services, and of the old altar in the chancel for the low or daily offices. Wherever placed, he might add, the altar should be protected by gates in the screens, not only at the west, but also at the sides of the choir and chancel.

The Rev. W. Cadman, with respect to the fabrics of our churches, maintained that the great and true attraction was the proclamation of the pure word of God. He did not think that such proclamation could be carried out in Roman Catholic structures, and he prayed that from every tinge of Papistry the fabrics of the Church might be preserved.

Professor Donaldson charged Mr. Hope with having omitted all reference to the Lord's table. Which had the more honoured significance, he would ask, the table of the Lord or the altar of the saint? The speaker denounced reredoses and baldacchinos.

COVERING IN COVENT GARDEN MARKET.

An improvement, which has long been desired, both on the part of the public and the market tradesmen, is now being carried out at Covent-garden Market. The spacious open area of the south side of the market, extending from east to west, to the extent of nearly 200 ft. in length, and about 60 ft. in width, is receiving a roof, which will promote the convenience and comfort of those using the market. The contractors who are executing the work, which is being carried out at the cost of the Duke of Bedford, the owner of the market, are Messrs. Cubitt & Co. The covering consists of a roof formed of iron and glass, in a single semicircular span of about 80 ft. in width and upwards of 50 ft. in height from the ground to the apex. The covering is carried on twenty circular ribs of iron, springing from iron columns on each side of the market, 20 ft. in height. A framework of iron, 10 ft. in height, above the market walls, in divisions 4 ft. in width, with a circular head, is also carried up above the columns. This space will be left open for ventilation purposes, and the roof will lap over it on each side to the extent of 4 ft. The glass covering, of which the roof will be largely composed, will give light to the interior of the market. The work is being prosecuted without at all interfering with the business of the market, by the aid of a travelling stage, moving on wheels, and along a tramway, which has been erected on the spot for the purpose. Four of the circular iron arches or spans have already been fixed in their places, and the work is being rapidly carried forward.

THE LIMA AND PISCO RAILWAY.

The contract for the construction of the Lima and Pisco Railway, Peru, 145 miles long, tapping the rich and productive valleys and sugar plantations between Surco Chorrillos, Lurin, Mala, Coayllo, Canete, Chincha Alla, and Chincha Maja, and connecting the important towns of Lima and Pisco with the now flourishing shipping ports of Callao and Pisco, on the Peruvian coast, has been taken by Mr. Robert Walker, contractor and engineer, of Victoria-street, Westminster, the Peruvian Government having granted a concession, giving the land and guaranteeing 1,040,000*l.* towards the work, which will be proceeded with forthwith, and the railway will be completed in three years.

OPENING OF NEW MUSEUM AND LIBRARY AT WELSHPOOL.

The ceremony incidental to the opening of the Powisland Museum and Library at Welshpool has taken place in presence of a large number of promoters and well-wishers of the undertaking.

The museum building, which is situated in Church-street, has not much that can be called ornamental, but it is not unworthy of the use to which it will be put. The museum is under the "wing" of the Powisland Club. The new building consists of a wide entrance-porch leading into the museum, which is 42 ft. long by 26 ft. wide, and 27 ft. in height to the ridge of the roof, from which it is lighted, the walls being designedly left unbroken for the reception of wall-cases, and the exhibition of works of antiquarian interest. The roof internally is open-timbered, and plastered under the spars, the walls being coloured a light grey tint, and the fittings being painted a dead black or ebony colour, fully to display the objects of interest they contain. The exterior of the building is Gothic in style, and built entirely of light yellow brick, the cornices and other features being of moulded brick, and the external entrance-door of oak with hinges. The tympanum in centre of front arcade contains a carved representation, by

Norbury, of the arms of the club, which is presented by Mrs. Maurice C. Jones. It is intended, when funds permit, to erect a porch and an additional room on the east side of the present front. The works have been carried out under the superintendence of Mr. David Walker, the honorary architect, by Mr. Edward Williams, builder, of Newtown; and the total cost, exclusive of fittings, will amount to about 480*l*.

Earl Powis, in addressing the meeting at the inauguration, said, before he moved the adoption of the report, which had just been read, he must congratulate them upon the completion of the new museum. It was a great thing for an institution like that to have a freehold, a local habitation of its own, and that it would not be subject to the casualties of a yearly tenancy. This security made those who had curiosities more willing to deposit them in the museum for the public benefit, and made others take more interest and pride in their museum. He was agreeably surprised when he came there that day and saw the handsome room in which they were assembled, and which had been erected through the energy of Mr. Maurice Jones, to whom the society was under the greatest obligation. The museum they had opened that day was most useful in the study of antiquities. The curiosities exhibited appealed to the mind, and enabled them to realise and understand things in a way they never could by lectures, oral instruction, or by reading history. He made a passing reference to Eisteddfodau—musical gatherings peculiar to Wales, and which might be said to have set the example of the great English festivities. In melody there was no tune which had so captivated the English ear as "God bless the Prince of Wales." He had said that antiquities were practically the history of a country. They enabled them to understand the habits of a people much better than books did, and at a time, too, when books did not exist, and manuscripts had not survived. After referring to the researches of Belzoni and Mr. Layard, the discoveries in Herculaneum, Pompeii, and the palaces of Granada, his lordship said all classes were benefited by the progress of art. What kind of a day's work would a man have been able to do with the implements they saw in that museum, and which men used 700 or 800 years ago? After some further very interesting remarks, his lordship referred to the Act which enables rates to be levied for the establishment of free libraries, and which was limited to towns of 10,000 inhabitants and upwards. He said he thought they had that day seen the completion of a very good work.

THE PROPOSED BUILDING PROJECT ON STOCKWELL GREEN.

The question of covering Stockwell-green with buildings, which we noticed in last week's *Builder*, continues to occupy the serious attention of the inhabitants of the district, and the feelings of excitement and opposition to the project are daily becoming more intensified; but it seems probable that, unless arrangements can be made with the alleged manorial owners of the green, the chances of its being built upon are imminent. It appears that, although the green has remained enclosed and not built upon since the year 1802, this has not existed as a public right, but as the result of arrangements with the representative owners of the green, carried out by a committee of residents for the general benefit of the inhabitants; but that these arrangements are now in danger of being set aside in consequence of the owner, or lord of the manor, Mr. Appach, having sold the green for 3,700*l*. It is stated that Mr. Appach came into possession of the land under a deed of gift by Lady Grant, his aunt, who made him a present of it, and that certain leases in connexion with it having just expired, the owner has exercised his power of selling it. On the other hand, it is urged that the land was a piece of the waste of Stockwell-common, and that it probably might be found that no title could be shown by the parties proposing to build. It is suggested that the only way to get over the difficulty is to purchase the manorial and other rights in the green, and that the Metropolitan Board of Works is the only public body to do so, and that their effecting such purchase would secure the retention of the green for the benefit of the public. It is contended that if the green should be covered with houses, which will probably be small in consequence of the peculiar formation of the ground, the character of the neighbourhood will be entirely changed, and rents will go down. A petition has been in course of signature to the vestry, from householders and landowners, urging upon the vestry to make every exertion to preserve the green, on the ground that the great deterioration in the value of property which has already arisen from the building of the Smallpox and Fever Hospital in the locality would be very much increased by the green being used for building purposes.

We have received the following communication from a solicitor, dating from Broad Sanctuary, Westminster, the signature of which, written with that noble disregard for the time of others which distinguishes some members of the legal profession, is illegible:—

"Sir,—My clients, Mr. John F. Honey and Mr. John Cobeldick, have drawn my attention to a statement in your paper of the 10th inst. headed 'Proposed Building on Stockwell Green.' They feel that you would not willingly allow them to be prejudiced by the assertion therein contained, 'that the houses erected upon it would be uninhabitable'; and they request that you will either withdraw the assertion, or give them your authority for making it."

The statement in question was mentioned as one of the assertions made by those who object to the scheme, and is not ours to withdraw. Moreover, if it were correct, as reported, that the houses would be built "*back to back*," we should be bound to endorse the opinion expressed, no matter who was prejudiced thereby.

OPENING OF THE SOUTHPORT CAMBRIDGE HALL.

The Cambridge Hall, Southport, the foundation-stone of which was laid about two years ago by the Duchess of Teck, has been formally opened by the Right Hon. R. A. Cross, M.P., the Home Secretary. The ceremony was made the occasion of a general holiday, the shops being shut, and the town decorated.

The new hall, according to the *Liverpool Journal*, has been erected at a cost of about 25,000*l*. The building stands on a plot of land on the easterly side of Lord-street, immediately contiguous to the new wholesale market at the back, and the town-hall on the left-hand side. The extreme dimensions are 131 ft. from end to end, and 86 ft. from front to back. The principal entrance in the centre of the Lord-street front is protected by an arcade extending between the tower at one end and the projecting pavilion at the other, and by a projecting carriage porch, with stone pillars, octagon bases, carved caps, and cut segment arches, surmounted by a cornice and blocking. The entrance-hall is the largest apartment on the ground-floor, its length (inclusive of the staircase) being 53 ft. by 35 ft. wide. It is divided into bays by three arcades of pillars, with enriched caps and bases similar to those outside. The floor is formed with encaustic tiles, and the wall and ceilings are coloured. On the right-hand side of the hall is the mayor's reception-room, 36 ft. by 25 ft., with a retiring-room attached. On the same side are large retiring-rooms for ladies and gentlemen, and at the extreme back are the general lavatories, &c. The approach to the principal floor is by a flight of stone stairs, 11 ft. wide, with perforated balustrade. This leads on to a promenade corridor, 86 ft. long, divided from the stairs by pillars and balustrade, and lighted (as well as the stairs) by stained-glass windows, by Edmundson, of Manchester. The five chief windows have emblazoned on them the Royal arms, and the coats of arms of her Royal Highness the Princess Mary of Cambridge, Duke Teck, Lord Skimmersdale, and the arms of Southport. The floor is laid with encaustic tile, which has been provided by Messrs. Malkim, Edge, & Co., of Buralem. Parallel with this corridor, and communicating with it by three large doorways, is the assembly-room, 120 ft. by 50 ft., with a large orchestra platform at the Town-hall end, and galleries on the three other sides. The galleries are not supported with pillars, but with cast-iron brackets which project from the walls, and bear the wooden beams, which are all exposed to view. The decoration of the ceiling and walls is simple. The ceiling is curved, and the curved beams are carried by carved stone corbels and dwarf pillars. The tones of colour adopted are based on the autumn tints. The whole of the ground floor on the left of the entrance-hall is let to the Postmaster-General as a postal and telegraph office, and the public entrance is from beneath the loggia in Lord-street. The premises comprise a public office, 60 ft. by 44 ft. postmaster's office, operating-room, battery-room, a large room for the postman, and a residence for the porter. The whole building is heated by Mr. Hoyle, of Accrington. The front of the building and the tower and angle pavilion are built of Longridge stone, tooled. The height to the top of the blocking is 40 ft., the height of the angle pavilion is 90 ft., and that of the tower 127 ft. The four figures on the sides of the tower are from the chisel of Mr. Alfred Norbury, of Liverpool. They are intended to illustrate the early British, Roman, Saxon, and Norman periods of English history, as represented by Caractacus, Julius Cæsar, Edward the Confessor, and Alfred. The central portion of the front design is very simple, and consists of an arcade of seven semicircular-headed windows, surmounted with a stone cornice and blocking; the centre being accentuated by means of a mansard turret with a stone dormer. The spandrels between the window-heads are relieved by four medallions, representing the seasons.

The building is surrounded by a fine garden. A stone parapet wall, with ornamental iron rails and piers with lamps and griffin standards, has been placed within the line of the public boulevards. Large openings admit from these into the grounds, which are laid out with broad walks, and grass and flower beds. In the centre of the gardens, immediately in front of the Cambridge Hall, is a stone fountain, sunk 3 ft. below the level of the ground, and guarded at the four corners with vases and carved stone infant figures. Flanking this, opposite to the Town Hall and the houses in Rose-hill, are two large circular terra-cotta jardinières filled with bedding-out plants. The old steps to the Town Hall have been altered and greatly improved in appearance. The architects of the whole were Messrs. Maxwell & Tuke, of Bury, and the builders, Messrs. Heward, of Southport.

THE NEW MUNICIPAL BUILDINGS FOR READING.

The chief stone of these new buildings has been laid in the presence of a large number of spectators. The new buildings will adjoin the Town-hall. They will afford accommodation to the principal officers of the Corporation, as well as provide a council chamber and suite of rooms much needed to meet the increasing requirements of the borough. The architect is Mr. Alfred Waterhouse. The style of architecture will be Gothic, and the buildings will be of local grey brick with red brick dressings, relieved with red terra cotta from the neighbourhood of Norwich. There will be no stonework whatever in the buildings. Having to keep within the boundary line of the street, the building is very much cramped, but, notwithstanding this difficulty, the architect has succeeded in utilising the space at his disposal. The principal feature in the structure will be the entrance-tower, which will supersede the present entrance to the Town-hall. It will be 60 ft. high to the top of the cornice, and 100 ft. to the finials. The portion of the buildings facing the Market-place will be three stories high, and that facing Vastern-street two principal stories, with the hall-keeper's residence above. The council chamber will be 36 ft. long by 25 ft., and 24 ft. high, with a carved ceiling. In this room there will be a spacious gallery for the public, the dimensions being 37 ft. by 12 ft. deep. The bay window will be 18 ft. by 4 ft., and access to the gallery will be by a separate staircase from Vastern-street. There will be a lift in connexion with the gallery, for the purpose of hoisting coal. Access to the tower will be by a flight of steps 9 ft. wide. There will be three doorways, two of which will be for the public. The old council chamber has been shortened, and will be used as a committee-room. On the ground floor in the direction of the Market-place will be two rooms for the town clerk, and rooms for the deputy town clerk and borough surveyor; also four strong rooms for deeds and muniments. Over the town clerk's offices will be a large committee-room, and above it five rooms for the hall-keeper. In the tower will be a clock-chamber, affording room for a carillon of bells for playing tunes. The roof of the building will be high-pitched and covered with tiles. The total cost is to be 8,465*l*. Messrs. Parnell & Sons, of Rugby, are the contractors; and Mr. Bottrill, is clerk of the works.

NEW BATHS, WASHHOUSES, AND LAUNDRY FOR PORTSMOUTH.

These baths will help to swell the list of similar buildings, now in course of erection throughout London and the country, and will be an additional proof of the impetus which of late years bath-building has received. The site of the proposed buildings is in a densely-populated district, near the railway station. It is about a mile distant from the sea, and occupies a central position between Landport, Southsea, Portsea, and Portsmouth.

There are some buildings now on the site, which were formerly the waterworks for the supply of the town; they were afterwards used as a brewery and known as the "Lion Brewery," from which last they are to be converted into baths, washhouses, and laundry. The old massive walls of the buildings are in good preservation, and the well of spring water which still remains intact, will it is anticipated prove a source of great advantage and profit. For years the want of baths situated within easy access of the whole town, and at a cheap rate of charge, has been much felt. A number of gentlemen have now formed themselves into a company in order to meet the public requirements, with full confidence in the success of their undertaking.

The plan of the buildings is as follows. On the ground floor is the tepid swimming-bath for men. It is 38 ft. long and 28 ft. wide, and will hold when filled 40,000 gallons of water. Thirty dressing-boxes are provided for the bathers, with a stage and spring board for diving. The bath-room, which is lofty, will be lighted by two large semicircular windows, filled with stained glass in geometrical patterns, and colour will be freely used in the decoration of the walls. At the back of the buildings are the men's first and second class private baths. The washhouses for women occupy the front and main building.

The chief feature of the place is the central position of the ticket-office, so placed in order to economise labour by enabling one official to do the work of two or three. He can distribute tickets to the bathers on one side, and to the women using the washhouse on the other; while from the front the washing for the private laundry is received from the carts, and hoisted by a lift to the first and second floors. These are entirely set apart for washing, drying, mangling, ironing, and sorting for the private laundry.

The room for disinfecting linen will be outside the building, and away from the laundry. A house for the superintendent is also provided for over the main entrance to the baths.

The works will be executed from the plans and under the personal direction of Mr. Alfred A. Hudson, architect, Southsea.

THE DISCOVERIES AT ST. MARY'S CHURCH, DOVER.

In aid of the restoration of the tower of St. Mary's Church, Dover, Canon Puckle delivered a lecture in Dover last week, which considerably interested his hearers. The reader after describing what had been found during recent works, said the inference was unavoidable—the thing stood to tell its own tale; there was an antecedent fabric altogether to the old tower that they all thought was the ancient part of the church—supplying the evidence upon which they now built their conclusion that they had got to the very early Christian times, that there had stood there a very old church indeed before ever the Norman portion of this old Norman-faced tower of St. Mary's was thought or heard of. Here the lecturer exhibited a diagram, showing the style of work in pre-Norman times, and then observed that as soon as he saw what the architect had discovered he felt convinced that there was very clearly something antecedent to the old Norman tower. There were a few features about the Anglo-Saxon times that were well worthy of a few moments' attention. What they found here exactly corresponded with what they had in the interior of the church. He had a tedious controversy with the archæologists of the county, who did not believe that there were any remains of Anglo-Saxon work—and it was all mistake; that the best we had was only something of Norman times; that the Anglo-Saxons never thought of building of stone; that they built their fabrics chiefly of wood. The lecturer showed by the aid of diagrams the way in which the Anglo-Saxons built of stone, and said it was customary for them to use stone, and therefore 'the old argument about wooden buildings fell entirely to the ground. He did not believe they ever used wood except where wood was to be had for nothing and stone could not be got at all, or if got the people had not the skill to deal with it. The old Anglo-Saxon church was not fit to build anything else upon, and therefore in order to make all secure and to preserve the work for future generations, they were obliged actually to pull down the old Anglo-Saxon church, stone by stone, every one of them being numbered and put away, and then, when the rebuilding took place, the old Saxon church went up, stone by stone, and bit by bit, exactly as it was taken down, and, notwithstanding its removal, there was now the very identical church which the old Anglo-Saxons built and left for future generations. When they got to the bottom of the foundation they came upon a very curious thing: these Anglo-Saxon fellows had made their beginning upon old Roman baths. They were a bathing race, and here were the old baths, with all their appurtenances belonging to them. Another diagram was here shown, explanatory of the foundation as described. Others followed, showing the style of arches, &c., and the gradual progress made in the style. If they were right in their inferences, and understood what were the tone and spirit of the old Anglo-Saxon work, they were prepared to understand that St. Mary's Church in all probability stands on an old Anglo-Saxon church. He was quite in a position to prove that the building that stands there is exactly and positively part of a building long anterior to the superstructure of the tower, and upon these facts he thought he might be permitted to exercise a bit of imagination, and conjecture here what he believed was the original form of the church that stood there in that little narrow neck of Cannon-street. Canon Puckle then exhibited a rough sketch of what he believed was something like the original Anglo-Saxon church that stood where St. Mary's now stands, and, alluding to the "secular canons" of St. Martin's, said there the inhabitants had the origin of the name Cannon-street, and he hoped when the next revision of the names of the streets took place the name would be spelt in the proper way—Canon, and not with two ns,—because the street took its name entirely from the connexion of the secular canons with the little Anglo-Saxon church which stood where St. Mary's now stands. Asking himself the question why he had taken so much trouble to get at all these details, he said there was something in it not only pleasant for those who were interested in the place to be able to point to a certain spot which had great interest attached to it, and say, "Yes, there is a link of connexion between you and the very earliest ages of your history,"—there was a still deeper interest than that, because everything was of importance which made a link between ourselves and the earliest ages of our history, considering what our country has passed through. Remember that in these Anglo-Saxon days it was absolutely impossible to carry any appeal to Rome. When they found the spirit of the people was such that they would not for a moment hear of any foreign interference, not only with regard to civil but also religious and spiritual rights,—recollecting the name of St. Augustine, the great Italian monk, who came over here with the high pretence of Christianising the lower part of the country,—when they found resisted from his day onwards all that interference which in after days developed itself with such fatal consequences,—when the people kept themselves most carefully to their own original connexion with the Eastern church, of which all our own system had been clearly handed down to us,—when after a little while the mission of St. Augustine failed as it did,—when they recollected, too, how the great wave flowed back to Kent and Sussex, and gave us what we now have,—then he thought there was more than common interest in tracing anything that carried us back to those times, whether civilly or spiritually concerned. The lecturer then entered upon the Norman period, showing by the aid of diagrams the extension made by the Normans to the church, and alluding to other buildings in Dover and the neighbourhood which were supposed to have been erected about the same time (including the alterations of the Dover Castle), which was somewhere between the time of Henry I. and Henry II. He pointed out as a peculiarity of the architecture of this period that the row of arcades on the right of the church are 19 in. higher than those on the left, showing that no rules were used and no attention paid to uniformity,—just in the same way as in Dover Castle Church there was not a single parallel or a single angle alike. Coming then just beyond the Norman time to that of Henry III. there was a still larger extension. The Normans had destroyed the old Anglo-Saxon walls, and the early English destroyed the Norman walls. Those were the very busiest times of early English days, and about the end of the reign of Henry III. the great hospital of the Maison Dieu was built, where distressed pilgrims were tended by Sisters of Mercy, or "Beguins," to which name Biggin-street owed its origin. Canon Puckle then proceeded to relate the discovery, during the excavations in St. Mary's, at about 12 in. below the surface of the original pavement close by where the font now stands, and immediately opposite what would have been at the time of the Anglo-Saxon church the altar of a sort of huge sea-chest, which, on being opened, was found to contain a most perfect military figure—a handsome face, with a moustache and military beard; it was shrouded in a mass of fine linen which had turned perfectly black with age, and there within every fold of the linen and about the whole body was the most exquisite perfumed matter in the shape of embalming that anybody could ever hear of. It was a sepulchre more than royal; the embalming was only such as we read of in the New Testament, being of costly and most exquisite beauty. The body was so securely preserved that even when the air got to it it made no alteration in the features; it merely caused a little external hair to drop off. The rest was purely preserved and remained so during the time the body was open for examination. It was not kept open long, but there was no other change that took place. When a little pinch of the perfume was placed upon a trowel and set alight, it spread over the entire church and filled it with a perfume as if twenty cascades had been set flowing. The question arose—who could this have been? Who was it likely to have been? Who was buried in this royal manner? He put himself in communication with an old friend of his in the British Museum, who came down immediately, took his notes, and returned, and shortly afterwards the body was replaced in the position in which it was found. There were only two persons that his friend could conceive would answer to the form and stature of this body—namely, one King Stephen and the other a favourite of the Queen of Scots, who was known to have died at Dover. It was perfectly absurd, however, to think about the latter, because the sepulchre was far older than the period of the Queen of Scots, and then again it was not likely that any common person could have been buried in such a style of embalming. The whole style of the thing carried them back beyond the Middle Ages, and therefore the only reasonable supposition was that it was King Stephen, who was said to have died at Boulogne, and his body carried to Faversham at the desire of his Queen. No doubt the body was placed in consecrated ground in the old Anglo-Saxon church of St. Mary at Dover with a view to its being removed at some future time to Westminster or elsewhere; and the chest being only 12 in. below the surface confirmed this view. Therefore, when they put all these facts together there seemed no other conclusion than that this very startling sepulchre, which took place under the roof and just under the shade of the tower of St. Mary's, was that of King Stephen. It was disputed whether Henry IV. was buried in the Black Prince's chapel in Canterbury Cathedral, until the late Dean of Canterbury and the canons and others banded themselves together, and under authority of the Dean, went and satisfied themselves that the body was in the tomb there. He believed nothing could disprove that, under the pavement of St. Mary's Church, there were the remains of certainly not an interesting sovereign of England, but still of one of the line of Royal sovereigns, and thus there was an historical connexion between the town of Dover and the Royal line of England.*

The Society of Antiquaries of London. The removal to Burlington House, Piccadilly, will shortly be effected. It is hoped that the new Library may be rendered available for the use of the Fellows by December 1st.

* The *Dover Standard* contains a full report of Canon Puckle's lecture.

TRAFALGAR SQUARE AND OTHER SPACES.

The rumour that the Duke of Northumberland is desirous of doing something for the embellishment of Trafalgar-square in connexion with his sale of Northumberland House to the Metropolitan Board of Works, and the formation of a new street and approach to the Thames Embankment through its site and grounds, has received a good deal of notice in the general press, and a variety of suggestions have been offered as to the proper thing to be done in regard to the square. Some of these have been so *outré*, that any thought of their being carried out is calculated to excite alarm, and it seems desirable to offer a few general remarks upon the architectural aspects of the question. A mania seems to have set in for "grass-plats" and "bedding-out," &c., of which we have had some deplorable instances, as those in the neighbourhood of the Houses of Parliament, where instead of the completion of the quadrangle of New Palace-yard by the architectural features intended by the architect, and which were everything almost to the unity, beauty, and cohesion of his plan as to its landward façade, we have had to be content with a continuation of railings and lamps, within which are distributed in patches "grass-plats" and "sub-tropical" plants, for the most part presenting a mournful illustration of the fatality which seems to burke the fairest architectural prospects in this country. It is but just to the memory of the late Sir Charles Barry to say that it was *not* the insuperable difficulties of the changes of level in the locality which led his admirable and picturesque scheme for finishing the "Houses" in that quarter to be abandoned, but the concession to a railway company, whose tunnel would interfere with the designed erections; and it is only just to say that Mr. Edward Barry got out some alternative designs, which, while not so extensive as those of his father, were far ahead in effect of the railings which he was at length compelled to put up. If after the turn matters took in Parliament a handsome stone Gothic screen and gateway had been substituted for the originally intended buildings it would have been some substitute for their loss, and served almost as well the absolute necessity of breaking the gaunt aspect of the Clock Tower, which would not have been apparent had Sir Charles Barry's design been adhered to.

While on this topic, and before returning to the subject of Trafalgar-square, we would also say that the necessity for the destruction of the shrubs and trees of the inclosures of "Parliament-square," while the works of the railway company were being carried through them, has been but little requited or compensated by the present flat arrangements of grass-plats and beds, and the forest of surrounding lamps. Surely it would have been possible to have had raised beds of sufficient elevation for good shrubs to take root and grow, which would have formed admirable surroundings and backgrounds for the statuary presumably intended to be erected there; but which, however, will now have to be viewed in connexion only with the prim formalities of "bedded-out flowers" one part of the year, and the empty bare earth the remainder. A little naturalness of shrub and tree is infinitely preferable to all this; and flowers then come in as pleasing adjuncts, but fail of effect when their repetition in profusion, and in set geometrical patterns, is the prevailing feature.

In taking up the question of Trafalgar-square,—which has its theoretical and practical aspects,—it must be at once admitted that the erection of a gigantic column in proximity with other buildings and columns, was a fatal mistake; the *only* result being that the latter are necessarily dwarfed into an undue insignificance, from which they cannot possibly be redeemed by any allowable increase of size or by any method of treatment. It is very unlikely, however, that a removal or re-arrangement of the Nelson Monument would ever be attempted.

That a very noble building, however, of large proportions, should "crown the steep" and occupy the place of the present National Gallery is a *sine qud non*, and we are compelled to believe that the allowance of the excrescences of the works now going on in the rear to appear so obviously above the line of the present building can only be a sly method of forcing on the question of the re-erection or remodelling of the present façade on a nobler scale.

We turn, then, to the actual condition of the square or plaza as it is, and the proposals for its alteration and embellishment; and here not the theoretical, but the practical—and that only to a very limited extent—can have place. It should be remembered that this matter came definitely under view at the time of the competition a few years back for a new National Gallery, and that most of the competing architects comprised in their designs some rearrangement of the area of the square; and it is possible that some of the few suggestions we think appropriate at the present juncture may have been more or less anticipated.

Without any very great outlay there are, then, a few things which could be done as forwarding that improvement of the square, which *must* take place when a new National Gallery is erected, or any finer, nobler building in its place. In the first place, we would remark that the whole character of the square is necessarily so entirely *architectural* that little in the way of "flowers" or "gardening" could find appropriate place. Art has its own province, and cannot delegate its functions to another source of beauty without derogation of dignity; and to eke out its own shortcomings by an appeal to nature is, after all, but to expose its poverty. The principle is an unsound one. Where art is dominant, nature is but subservient and ornamental, and *vice versâ*. Among the streets and buildings of a great city, it is art which has to gain a victory in beauty, however pleasingly relieved by nature. We will presume that no interference will be attempted with the Nelson Column or other existing statues, or the surrounding buildings, beyond keeping in view, what we trust is certain, the erection sooner or later of a National Gallery of noble proportions. The first prominent architectural need of the square, as it now is, is to be relieved of its present "boxed in" appearance, and this could be greatly effected by substituting for the perpendicular wall of granite on the north side facing the National Gallery an unbroken flight of terraced steps between the two pedestals for statues, round which at the sides steps already pass. This would open up the square immensely, and add materially to its appearance of area. The present vacant pedestal might well be occupied by an equestrian statue of the Queen, or the late Prince Consort; either of whom is more than equally entitled to such an honour, as encouragers of the fine arts, with the late George IV. The flanking boundary walls of the enclosure, instead of being as now closed-up inclines of granite, should descend in horizontal stages, and be balustraded; this again tending to give a more open appearance to the square. Vases with flowers, or lamps, would be appropriate terminals for each stage of boundary wall thus treated. In itself this treatment is always an effective one.

Whether or not it would be desirable to place shrubs between the projecting portions of the stylobate of the Nelson column upon which the lions rest could be a matter of experiment: we should scarcely think it; but if so, a handsome low grill, as is so much the custom in France, where flowers are introduced in connexion with architectural compositions, would be requisite. The paving of the square in an ornamental manner,—say, of a tesselated pattern,—would also certainly be preferable to the present dingy dead level of asphalte. With these alterations might also be combined lamps of an ornate classical design. It would, of course, be possible to add much to the appearance of the square by making the fountains play in connexion with groups of statuary. Great improvements might be effected in the fountains themselves, which, apparently from a deficiency of water, lack all that foaming, gushing appearance which a fountain ought to possess, and for which a mere spouting, however ornamentally arranged, is a poor substitute. The play of the wind, too, upon water in motion of insufficient volume produces undignified and even ridiculous aspects, and, in the present instance, too often creates a nuisance by giving to the square a most unpleasant "sloppiness."

We have been led to make these remarks as to Trafalgar-square because we think that any idea of merging its pronounced architectural character too much into an affair of gardening, should be strongly deprecated. The square has already elements for grandiose effects, depending on architectural and statuesque combinations, and these should not be lost sight of, and cannot be supplied by walks and beds of flowers, which seems to be the notion prevailing in regard to the projected "embellishments" of the square. The transformation of Leicester-square, for which all have so much reason to be thankful, does not by any means seem to be a model to be followed for square decoration, but rather an experiment, not altogether satisfactory, and having a somewhat toy-like and inadequate appearance, which should be avoided; and we are not sure but that something of the Continental plaza, or open space, with trees planted round, seats, and a really fine central group of statuary, would have been preferable.

We would include in these notes a remark upon the quadrangle of the British Museum. The building, which is really noble, though of a severe type of grandeur, would gain life by the introduction of external groups of statuary, for which it has abundant points, on the skyline, at the base, and in the quadrangle, where also with excellent effect might be introduced trees and shrubs and flowers. The latter remark would also apply to the Park front of Buckingham Palace, the dreary aspect of which would be greatly relieved by some statuary,—say two groups in central parts of the enclosure, and a few trees at regular intervals following the line of railing, so as not unduly to interfere with the openness of the space for necessary uses on State occasions.

Sir,—A letter in last week's *Builder*, in reference to the laying out of Trafalgar-square, reminds me that your journal contains one from me on that subject. It must be several years since. The chief alteration suggested in that was the paving of the whole area, which should include the lions and columns, with black slate, and filling it with water, to convert the fountains into islands of flowers, &c. The reflection and apparent depth of the water would give elevation to the Gallery, and produce, I firmly believe, a most magnificent effect. The water could be let off if the area of the square were at any time required. W. C. T.

BILLINGSGATE MARKET.

In the course of a few days the first stone is to be laid of the new Billingsgate Market, about to be erected from the designs of the City architect, Mr. Horace Jones. Our engraving represents the south front of it, facing the Thames.

The total area of the market when reconstructed will be about 40,000 ft. superficial. The basement, extending over the whole site, will be groined and vaulted; brick arches on piers carrying the general market floor on the Thames-street level. The basement, some 24 ft. in clear height, will be used as a shell-fish market, and will be approached by stone staircases in the middle of the Thames-street and river fronts.

The general market on the Thames-street level will have three-fourths of its large area devoted to salesmen's stands; the remainder being devoted to fourteen shops and warehouses for salmon and other salesmen, on the east and west sides of the market respectively, the large area of which they will front. Two large taverns at the south-east and south-west extremities of the river front complete the accommodation on this floor. The market will be covered with louvre glass roofs, affording ample light and ventilation, carried on lattice girders of 60 ft. span. The height to the roof-plate will be 31 ft. 6 in., and to the ridge 43 ft.

Above this market will be a gallery, having an area of some 4,000 ft. superficial, approached by stairs from the staircase-halls at the north and south ends of the building; this will be used as a market for the sale of dried fish, and will be lighted and ventilated in a similar manner to the general market.

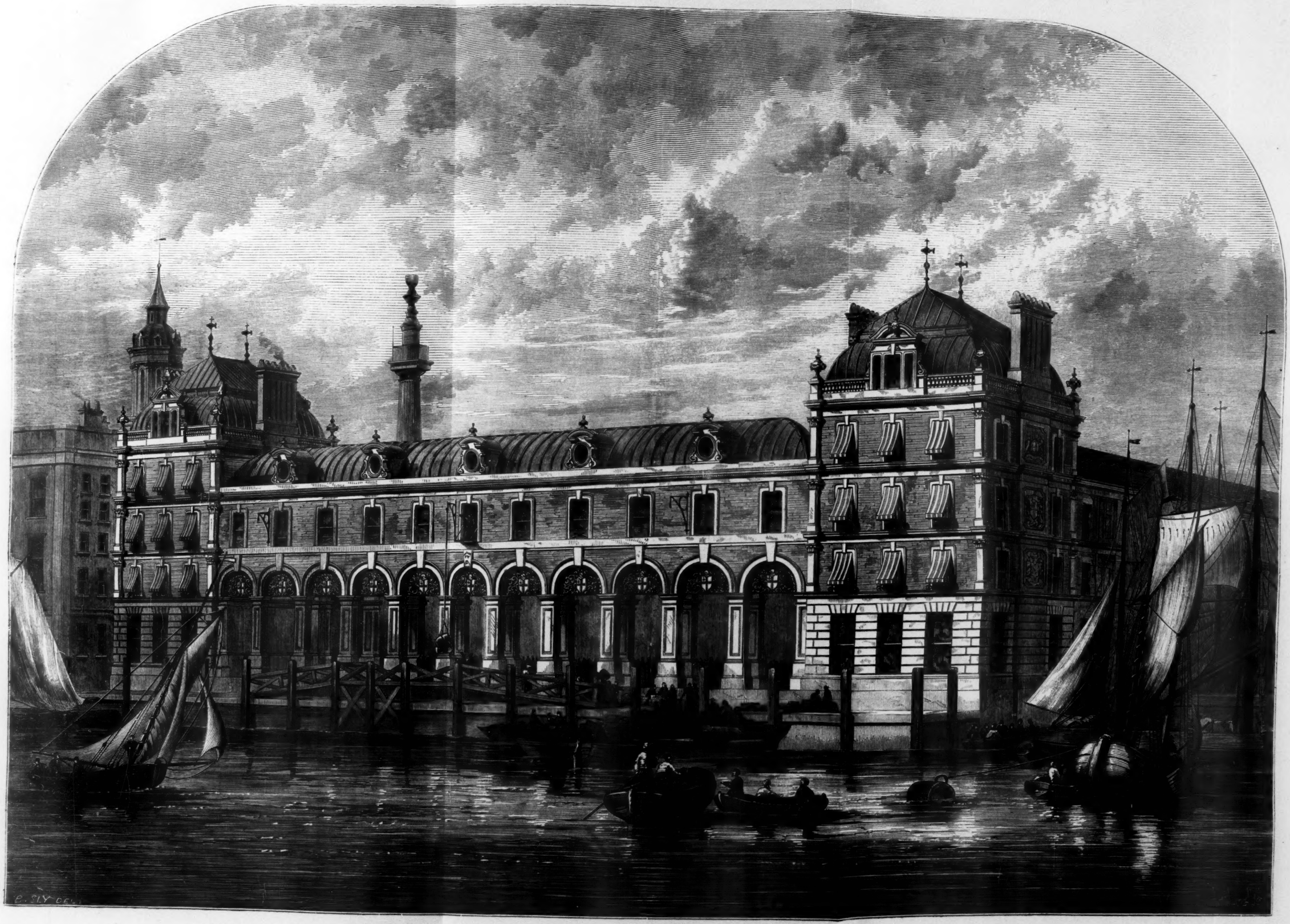
The design is Italian in character; and the materials will be Portland stone, with polished grey granite plinths throughout, with yellow brick facings between the upper windows. The columns supporting the heavy roof girders are of iron, and about 31 ft. in height.

In another Number we shall give a plan of the market.

MARGATE DRAINAGE COMPETITION.

At a recent meeting of the Town Council, the following resolution was passed:—"That the plan of 'Economy' be selected as the one entitled to the first premium subject to the author (Mr. Lewis Angell) making such alterations therein, without further charge, as may be necessary to embody the suggestions of Sir Joseph Bazalgette, and render it capable of passing the Local Government Board."

The first premium is 200 guineas.



NEW BILLINGSGATE MARKET: SOUTH SIDE, FRONTING THE RIVER THAMES.—Now being erected by the Corporation of the City of London.——Mr. Horace Jones, Architect.

THE SEWAGE OF TOWNS.*

Wherever persons congregate together forming villages, towns, or cities, an artificial state of things arises which demands special measures to be taken for their convenience, comfort, and health. The larger the place and the more dense the population the greater the necessity for immediately and completely removing all decomposing or polluting matter from it. It is rarely possible to obtain sufficient water for a large town without going to a considerable distance and to great expense for it, and when used for ordinary domestic purposes, whether it be culinary, household cleansing, or washing purposes, or the vehicle for carrying away the alvine discharges, or for any other purpose, artificial means must be adopted for conveying it away. Provision must likewise be made for the removal of the rain falling upon the site of the town, and some method must be adopted for the scavenging or removal of the more solid waste materials produced in more or less quantity in every town.

The best method of removing all decomposing matter from the site of a town must be admitted to be that which performs its work most efficiently, most conveniently, most expeditiously, is the least costly, and gives the best results in a sanitary point of view.

So far as the drainage of a town is concerned it will be admitted that three things are necessary in order to secure the health of the inhabitants:—

1. The effectual drainage of the surface.
2. The drainage of the subsoil.
3. The means of conveying away the polluted water.

It is not now necessary to enter into such details as relate to a system of sewerage, as the expediency or not of constructing one or more sets of sewers to deal conjointly or separately with the sewage, rain, or subsoil water, but we will confine our attention to some matters in dispute at the present time as to which is the best method of conveying away the excreta and other noxious and decomposing matters from the sites of towns.

In approaching this question, in the opinion of the author, too much stress is at present laid on the agricultural rather than on the sanitary aspect of affairs. It is on this account chiefly that a variety of schemes have been proposed and put in practice for collecting the manurial element of the population with a view if possible to realise a profit therefrom. In deciding such questions the authorities of towns should consider that there is more to be gained by a perfect system that shall preserve health and lessen the risk of death, than by any system, however remunerative, if there are good and sound sanitary objections to it.

Various dry methods of collection have been proposed, such as the "Eureka" or pail system formerly adopted at Hyde, in Cheshire, now in use at Rochdale, Manchester, and other places; modifications of this system as introduced by Goux and Morrell; the earth-closet system, earth being used as the means of deodorising and fixing the manurial property in the fæcal matter. Carbon has of late been proposed and used as a substitute for earth with similar mechanical appliances; and Captain Liernur's pneumatic system of collecting the fæcal matter.

Of all the dry methods, the pneumatic appears to be the most simple, cleanly, and expeditious, and approaches nearest to the water system in regard to receiving the alvine discharges in closets, and removing it through pipes by pneumatic action. In these respects, therefore, it is certainly a very great improvement on the "Eureka," or pail system, or the earth-closet system, both of which, but especially the former, necessitates the carrying backwards and forwards of pails of filthy and disgusting matter.

Experience has now amply demonstrated that neither the Eureka, the earth-closet, nor other dry systems can be considered remunerative, while all dry systems require the fæcal and other decomposing matter to be left in the midst of the populations producing it for a certain period, thus increasing the risk of producing or aggravating a certain type of disease. The promoters of the dry systems advocate them as a panacea for all the evil connected with the subject of town sewerage; but, unfortunately, not one of the dry systems that have been introduced can obviate the necessity of a system of drains and sewers in a town. Considering, therefore, that water is required to be brought into a town for a variety of purposes unconnected with the conveyance of the alvine discharges; that it is delivered under such pressure that with properly constructed drains and sewers it becomes the mechanical agent which will bear away innoxiously and harmlessly not only all fæcal discharges, but the refuse of wash-houses, slaughter-houses, and manufactories, which cannot otherwise be dealt with; it does appear, in the author's opinion, that after incurring the expense of procuring water and providing drains and sewers for conveying this water after use from the sites of towns, the most should be made of it, and that it is unnecessary and wasteful, after paying the cost of water which has the required mechanical power, to employ expensive auxiliary systems to remove the excreta and other matters by manual and horse labour, which can be more safely and expeditiously removed by water-carriage. It is generally considered that a water-closet entails an increased cost in the shape of water. At first sight this appears a reasonable assumption, but experience has shown that with proper appliances no greater volume of water is needed for sanitary purposes in a water-closet town than is now found necessary in towns which have no such appliances. The following table of ten water-closet towns, and ten middenstead or dry-system towns may be taken to show the result. The average volume of water used in the water-closet towns is 31·6 gallons per head, while the average volume used in middenstead towns is 35·7 gallons per head:—

Names of Water-closet Towns.	Quantity per head.
Alnwick and Canongate	30
Barnet	30
Croydon	56
Liverpool	26
London	29
Penzance	25
Plymouth	40
Uxbridge	20
Warwick	30
Watford	30
Average	31·6

Names of Middenstead Towns.	Quantity per head.
Atherton	40
Ayr	38
Bradfor	26
Bacupd	33
Glasgow	50
Lincoln	30
Malton	40
Ormskirk	40
Perth	30
York	30
Average	35·7

In the case of water-closet towns, the largest quantity used, viz., 56 gallons per head, is at Croydon. This quantity is due to an error in the fittings, which was permitted when the works were first constructed. It has been amply demonstrated by practical experience in Croydon, that with proper appliances 15 gallons per head per day is sufficient water for all purposes, and this, too, in a district in which the number of water-closets greatly exceeds the number of houses, many houses being fitted with two or more water-closets.

One objection has been raised to the water-carriage system, and that is the difficulty of extracting or utilising the whole of the fertilising elements contained in sewage. When it is considered that up to the present time it cannot be shown that any profit has been made, but, on the contrary, a loss is incurred by removing the fæcal matter of towns by the dry or other systems, the cost of collection, manipulation, storage, interest, and principal on capital employed more than absorb the intrinsic value of the article collected. It is of little importance through what channel the loss is incurred. In point of economy the water-carriage will bear favourable comparison with any other system, and taking into account, what must not be ignored, that all water which has once subserved the uses of man should undergo some system of purification if it has again to be used, it will be seen that where the dry systems are in operation, in addition to the loss in collecting the fæcal matter, the impure water will require treatment almost equal to that necessary for sewage, containing the whole of the alvine discharges. In considering the question of the disposal of the sewage, either of water-closets or other towns, the analyses by the Rivers Pollution Commissioners show that, except a slight excess of organic nitrogen and carbon, the sewage of middenstead or dry-system towns contains quite as much polluting matter as that of a water-closet town. In many towns that have a dry system of conservancy the sewage is really fouler than in a town that has a water-closet system. This is due in part to manufactories, and also to the fact that where dry conservancy is in operation only a small proportion of the whole of the fæcal matter of the population is secured; the other portion by some means or other is lost, and eventually finds its way into the sewers.

The case as between dry conservancy and water-closets stands thus:—In every town in which a dry system of conservancy is used, the town authorities entail a large outlay in collecting, manipulating, and dealing with the fæcal matter as separate from the sewage proper. They do not escape having to deal with the polluted liquid at the outfall, which requires just as much care and treatment as if it contained the fæcal matter of the population, its chemical constituents being almost identical, and the polluting matter almost as great as in the case of a water-closet town. If, therefore, any process of treating the sewage of a water-closet town is unsuccessful, and entails an expense upon the constituency, it naturally follows that a double expense is incurred by those towns which adopt two systems, the sewer system, which is absolutely necessary for carrying away the foul water, and the system which deals with the alvine discharges of the population by some separate method.

Much of the want of success and non-progress in sanitary matters of late years are due to erroneous expressions that sewage is a material of great value, and until means or modes are known for securing this value, authorities are unwilling to take steps for promoting schemes of sewerage as they appear to be more impressed with the idea of possessing some hidden treasure, which, by the way, cannot be found, rather than facing the difficulty, and looking at the question from a sanitary point of view, and taking the profit that will be realised by the prosecution of works of sewerage or arising from the saving accruing from the prevention of the loss of health or premature death from preventible disease. From the author's experience it would appear that it is the most profitable to a town to adopt the water-carriage system in its entirety; the treatment of the sewage at the outfall as one, although of primary importance, yet should have secondary consideration, having regard to the health and prosperity of the district to be treated. That sewage has a value cannot be gainsaid. That value, however, differs immensely in different localities. The value assigned by chemists to manures of this class universal experience shows is not its commercial value. The farmer finds in practice that it pays him better to purchase high-class manures, or manures which have been specially prepared, for particular crops. Bulky manures never realise, commercially, the value assigned by the chemist. As an example, for farm-yard manure valued by the chemist at 15s. per ton, a farmer would rarely give more than a third of this amount. Night-soil, which has also been valued at 15s. per ton, seldom realises more than 3s. per ton. The full value of sewage, whether applied directly to land or manufactured into a portable manure, can never be realised unless fortified with the several ingredients it lacks. Liquid sewage is a manure poor in phosphate but rich in nitrogenous compounds, while manufactured sewage manure is poor in nitrogenous compounds and potash.

Much as is the sanitary good derived from the sewerage of towns, and which will take place as long as sewerage works are properly carried out, it cannot be denied that a large number of the streams of the country have been polluted with the sewage of towns, the refuse of manufactories, the foul water from mines, &c., so much as to become unfit for subserving the purposes of man, and in some cases for the watering of cattle. In a sanitary point of view the evils arising from the pollution of streams cannot always be directly traced; yet there can be but little doubt that foul decomposing matter cast into the streams of the country causes disease, and is baneful in

* By Mr. Baldwin Latham, C.E. Read at the Social Science Congress at Glasgow, Oct. 1st.

its effects on the health of the inhabitants living on their banks, especially upon such as are compelled to use such water for dietetic purposes. It is, therefore, necessary that works should be carried out and measures taken to purify the sewage discharged into streams used to furnish a supply of water in districts below. Various attempts have been made to effect the complete purification of sewage, and on this point the interests of both the sanitary reformer and the agriculturist are one, as the complete purification of the sewage means the abstraction of the whole of the decomposing and fertilising elements, which, if completely effected, will produce a great sanitary good. The question of the purification of sewage is one that must arise, and is totally independent of the system of collecting the fæcal matter now in operation in some towns. It has been conclusively shown that, with a dry system of conservancy, sewers and drains are necessary, and that sewage is produced which needs as much purification as in the case of a water-closet town. The fear at the present time is, that there may be too much generalising, and an attempt made to lay down defined standards of purity which are to be made universally applicable, but which, under many circumstances, are totally unnecessary, and would lead to immense expenditure and serious loss to many communities. There are circumstances in which a high standard of purity is absolutely necessary, and, on the other hand, others in which the crude sewage may be most advantageously and economically got rid of by being discharged into the sea; and between these two limits there are gradations of purity required. When high standards of purity are required, experience shows that they can only be obtained with certainty when sewage is applied to land, and in other cases where land is unavailable, a limited recourse must be had to chemical treatment.

The processes which have been proposed for treating sewage may be said to be of two descriptions, viz., artificial and natural. The artificial process includes both the mechanical and chemical treatment, while the natural process may be put down as irrigation and intermittent filtration. Of the materials which have been used for the mechanical treatment of sewage, it is hardly necessary to speak. It is admitted that such treatment can only be considered as an auxiliary to the chemical or natural processes, or to both conjointly.

Of the chemical processes, the *lime process* is the oldest, having been patented in 1846 by Higgs, and is probably, when efficiently carried out, one of the most successful in clarifying sewage. Lime acts on the sewage as an astringent, and coagulates the albuminous matter present in the same way as wine is clarified by isinglass. Lime also acts by neutralising the free carbonic acid, which abounds in fermenting sewage, and which holds some of the earthy salts in solution, the lime added in this process being converted into a carbonate, and precipitated in the deposit. The lime used in the treatment of sewage should always be perfectly fresh. To sewage of ordinary strength about 16 grains per gallon are required.

Treatment of Sewage with Salts of Iron.—In the lime process the action of the acids in the sewage upon the materials used produces precipitation, but in the application of the various forms of iron it is the action of the alkalies of the sewage that produces precipitation. When a salt of iron is added to sewage a precipitate is formed, composed chiefly of peroxide of iron, which is separated by the ammonia and other alkalies of sewage into an extremely flocculent precipitate, which drags down the suspended matters. The oxide of iron has, moreover, an affinity for organic matter; therefore a portion of this matter which is in solution is carried down with it; the salts of iron also carry down the phosphoric acid present in the sewage. Iron salts also act as a deodoriser, as sulphuretted hydrogen is removed by being converted into a sulphate or sulphide of iron. Iron is an antiseptic, and will preserve organic compounds from speedy decomposition. The first patent for the treatment of sewage with salts of iron was taken out by R. Dover, in 1851.

Magnesian Processes of Purifying Sewage.—The action of magnesian salts on sewage is complex, but the resulting precipitate is probably one of the most valuable of all precipitates that do not derive their direct agricultural value from the agents used, as both phosphoric acid and ammonia may be precipitated in small quantities. The salts of magnesia that have been proposed for the treatment of sewage are phosphate of magnesia, superphosphate of magnesia, chloride of magnesia, nitrate of magnesia, sulphate of magnesia, burnt and slackened magnesian limestone, carbonate of magnesia, sulphite of magnesia, and carbolite of magnesia. Mr. T. J. Herapath's process, which was tried some years ago at St. Thomas's, Exeter, is an example of the magnesian processes. It was not remunerative, and was abandoned. In a patent taken out by Dr. Angus Smith and Mr. M'Dougall, in January, 1854, they state, speaking of magnesia, "It has the property of rapidly separating the two substances, which constitute manure in urine, sewage, and other organic refuse matters, but it was not used for that purpose because of its inefficiency as a deodoriser." "These substances are phosphoric acid and ammonia, with which magnesia combines to form the ammonio-phosphate of magnesia,—a scarcely soluble compound of great value as a manure, and well known to chemists." They add, however, in their patent, — "The facts relating to the action of magnesia on substances containing phosphoric acid and ammonia have been for some years familiar to chemists, and therefore we do not claim its use as our invention."

Alumina Processes.—The alumina processes for purifying sewage have been in use for many years. In France it has been largely used as a means of purifying water for domestic purposes. When salts of alumina are added to the sewage for the purpose of producing a precipitate, the alumina decomposes the bi-carbonate of lime, which gives rise to the formation of sulphate of lime, which, with sulphate of potassa, remain in solution while carbonic acid is evolved, and hydrate of alumina being precipitated in a flocculent form, drags down various mechanical impurities. Alumina also combines with the phosphoric acid, and is precipitated, and most of the phosphates of the sewage are secured. Alumina also enters into combination with certain organic compounds producing insoluble matter, which it precipitates. This latter property of alumina is so well known, that it is largely used as a mordant for fixing colours, as it combines with cotton, wool, &c., with such affinity, that washing will not remove it. When lime is used as an adjunct to precipitate sulphate of alumina, it deprives the latter of its acid when it becomes insoluble in pure water, and is precipitated as a hydrated oxide of alumina, which envelopes the suspended impurities, dragging them down with it. This precipitate forms a sort of gelatinous substance, which is readily dissolved in solution of soda and potassa: hence some portion of the alumina remains in the affluent water after treatment. Professor Way and Dr. Voelcker have shown that clay (the base of alum) has the power of absorbing chlorine salts: therefore, when this material is used for precipitating sewage, a small amount of chloride of sodium will be removed from the sewage. The ingredients necessary for the successful carrying out of the alumina process are so universally distributed over the country, and are so cheaply and easily procurable, that this process will commend itself on this account. This process was first patented by H. Stothert in 1852.

Phosphate Processes of Treating Sewage.—In the phosphate processes a material of considerable agricultural value is used, consequently it is supposed that a manure of great intrinsic value is secured in the precipitate. Although the precipitate undoubtedly has a greater value than the precipitate produced by any other process, increased value is not derived from the sewage but from the ingredients added to it, and in the addition of these fertilising ingredients they suffer a degradation in value by admixture with the inferior material precipitated from the sewage. Moreover in all the phosphate processes it is necessary to add phosphates to the sewage in a soluble form, which is usually done by dissolving phosphate of lime or some mineral or fossil phosphate in acid. This addition of acid greatly increases the value of the phosphates, but when applied to sewage the acid has to be neutralised and the phosphates are again precipitated in a less valuable form; in fact, this process of passing soluble phosphates through sewage causes them to lose 25 per cent. of their value. On account of the degradation in value of the phosphates, and also on account of the materials lost in the process, this system of clarifying sewage can never in the author's opinion be made commercially successful. The process is however advantageous, for it may be used very successfully in clarifying sewage previously to its application to land. It is now well known that sewage is a manure poor in phosphate and potash, and rich in nitrogenous compounds, and that owing to the nitrogenous compounds present being so disproportioned to the other ingredients of value, in utilising the other ingredients most of the nitrogen is lost; consequently sewage in its normal condition can never be fully utilised upon land, so it has been proposed to fortify it with the ingredients it lacks, and for this purpose the phosphate processes of treating sewage have been commended. From what has been pointed out it is clear, if we wish to get the full value of the phosphates, it is better to place them direct on land rather than in the sewage; but as a set-off against the degradation in their value, the addition of phosphates to sewage deodorizes and clarifies it so as to diminish the risk of nuisance arising from its application as a manure. As a precipitant, the phosphates act like alumina and salts of iron, and they are rendered soluble by an acid which is either neutralised by the alkalies of the sewage, or by the addition of an alkali when an insoluble precipitate separates from the sewage, which drags down the suspended matter present. In the simplest form, if bone or bone-ash is treated with sulphuric acid, a soluble superphosphate of lime is formed; but if the acid is neutralised by caustic lime, insoluble phosphate of lime is precipitated. If phosphate of alumina is dissolved in acid, it will be rendered soluble; the addition of lime neutralises the acid, and the phosphate is again precipitated as an insoluble phosphate of alumina, and the same action takes place when other earthy bases combine with phosphoric acid; the precipitated phosphates, however, are of more value than the original insoluble phosphates, as they are supposed to be brought into that state which they would naturally assume on being applied to land; but in no case are they so valuable as in the intermediate state just after they have been treated with acid. The principal object which has been sought to be achieved by more than one phosphate process, is the abstraction of ammonia from sewage by a process long known to chemists. It consists in the application of phosphatic and magnesian salts, which have the power of combining with ammonia as before referred to. In practice this has never been found to entirely succeed with sewage, and the reason for it is, that this triple salt readily dissolves in water containing common salt or salts of ammonia. It is also soluble in water charged with carbonic acid. There is nothing particularly new in the modern phosphate processes which were thoroughly investigated some years ago by Sir J. Murray, M.D., and in 1849 a paper was read before the British Association by Dr. Buckland, then Dean of Westminster, who, after tracing the formation of coprolites, and showing that clay, marl, and lime were the agents used by nature to absorb phosphoric acid produced in the process of decomposition, he suggested that these agents should be used for absorbing the phosphates of sewage by combining with them, and so deodorising the sewage. The first patent for a phosphate process was taken out in 1858 by G. L. Blyth, consulting chemist to the General Board of Health, and since that period a large number of patents have been secured.

Many other processes have been proposed for treating sewage, such as materials for absorbing, evaporating, freezing, &c., and the precipitates in turn have been proposed to be manufactured into manure, fuel, as well as converted into food for cattle.

Of all the processes which have been adopted for the purification of sewage, there is no process equal in efficiency and permanency to the application of sewage to land. All the chemical processes have hitherto failed to completely purify sewage under favourable circumstances, and fail entirely at times in treating an article not only varying in quantity, but extremely variable in quality; and it is therefore most difficult to carry out any chemical process which requires an exact amount of chemical ingredient to be added to sewage of an unknown quality or quantity; but in the irrigation system, increase of quantity or variation in quality is readily adjusted. Irrigation pure and simple is almost totally independent of seasons, and in some cases intermittent filtration through land or artificial filters may be adopted, but it is desirable that with intermittent filtration areas, the success of which is due to atmospheric air contained in the interstitial spaces in the soil, they should

be, in some cases, protected from the weather, so that in continuous wet weather the soil shall not be deprived of the air necessary for the oxidation of the polluting matter contained in sewage.

The author is aware that it is impossible in the limited space of a paper of this description to completely elucidate the subject, or supply the details of works of sewerage or modes of purifying sewage, and the paper must therefore be looked upon simply as a *résumé*, the object of which is to open up discussion on the all-important point of town sewerage.

LECTURES AT SOUTH KENSINGTON.

The first of the sixth course of forty lectures on Historical Development of Ornamental Art was delivered by Dr. G. G. Zerffi, in the Lecture Theatre, South Kensington Museum, on Tuesday afternoon, at three o'clock. Referring to his recent visit to Paris, the lecturer said that he had found the works of English students compared favourably with those of the French with regard to technical skill and precision, but on the field of imagination we were surpassed by the French. The reason of this was to be found in our neglect of the higher branches of mental culture and our want of general education. This was daily becoming more universally recognised. Professor Huxley, Drs. Gull, Ferrier, Dickinson, and others had dwelt on the necessity for general education in their addresses to the medical students, and on all sides not only in professions but even in trade a higher degree of mental training was being required. If the students in art extended their studies in a right direction there could be no doubt that in time they would equal their French brethren in originality and fertility, and might even surpass them if once the imaginative were cultivated as carefully as the technical. Art students must remember that in these material days it became their sacred duty to nourish the glowing light of fantasy, and throw a halo of beauty over reality through artistic productions, thus proving man's higher faculties in a world in which matter was obtaining so prominent a position. The lecturer proceeded to describe the influences leading to the growth of art, and concluded his address with an explanation of the correct meaning of the terms "sublime" and "beautiful."

REBUILDING OF CHELSEA HOUSE.

Chelsea House, the town residence of the Earl of Cadogan, at the angle of Cadogan-place and Lowndes-street, is being entirely rebuilt, the mansion externally having already been almost completed, and the interior works are proceeding. It is intended to have the building ready for occupation about February next. The new structure, which is built of Portland stone, is about 65 ft. in height, with two prominent elevations facing Cadogan-place and Lowndes-street respectively. The building consists of the ground floor and three lofty stories, with dormers. The elevation facing Cadogan-place contains the principal entrance, with projecting bay-windows carried up to the second-floor windows, surmounted by a balustrade, and immediately adjoining another portion projects several feet beyond the main face of the elevation. The style is Dwelling-house Italian.

Mr. Young is the architect, and the contractors are Messrs. G. Trollope & Sons.

WATER SUPPLY AND RIVER POLLUTION.

Waste of Water in Liverpool.—At the last meeting of the Liverpool Town Council attention was called to the enormous waste of water consequent upon fires. This waste was not occasioned simply by extinguishing fires, for which the Corporation was bound to provide, but by the use of water by the salvage companies after the fires were extinguished. An instance was mentioned in which, for sixteen days after a fire had been put out, water was used to the extent of millions of gallons by the salvage companies. It appeared that an annual sum of 650*l.* was paid to the Corporation by the insurance companies for the use of the water, but this was characterised as a paltry amount, and totally insufficient. No action was taken upon the question of enforcing a larger payment for the water used.

Deficient Water Supply at Wallsend.—At the last monthly meeting of the Wallsend Local Board, Mr. J. Giles asked if the Board could not take any steps to bring pressure to bear upon the Newcastle Water Company to get a better supply for Wallsend? There had been a little on Sunday night, but none from the Sunday previous, and there was a five days' interval before that. Mr. C. Adams asserted that, from the overcrowding in the district, and the dirty habits of the people, he feared that there would be a sad epidemic in Wallsend at no distant date, if there was not a speedy improvement in the water supply. Mr. C. S. Swan, referring to Mr. Newall's paper, which had been read at Newcastle, said it would take two years to bring water from Ullswater, and what would they do in the meantime? The project would take a million and a half of money. The chairman suggested the formation of a water company at Wallsend. Mr. C. S. Swan and Mr. R. W. Swan spoke of several springs in the locality; and Mr. W. Turner stated that there was a flow of good water thirty fathoms down, in the neighbourhood of the "Gas Pit." Mr. Adams corroborated the statement, and added that, before they were supplied by Whittle Dene, it had been proposed to erect a small engine to pump up the water for the inhabitants. The movement had the support of the late Mr. Buddle. The subject was adjourned.

The Pollution of Ullswater.—A correspondent of the *Field* describes the repulsive appearance of the beck running from the Greenside mines, whose milky waters, impregnated with lead, can be traced like a white riband down the lake as far as Cherry Holme Island. Along the course of the stream vegetation is destroyed, and tree after tree is withering away. The destructive effects on the fish, with which the lake was at one time well stocked, are well known. The Greenside Mining Company ought, he thinks, to be compelled to dispose of the *detritus* of their ore-washing in some way that shall not poison the waters of the lake. He also considers that in course of time the health of the town of Penrith, which is partially supplied with water by the river Eamont, will become injuriously affected by this lead poison.

KENSINGTON SLAUGHTER-HOUSES.

An important announcement was made at the meeting of the justices of Kensington division for the renewal of slaughter-house licences. An application by the clerk to the vestry (Mr. G. C. Harding) and the medical officer of health (Dr. T. Orme Dudfield), that the applications stand over for three months (without prejudice), to enable compliance to be given with the bye-laws which the Metropolitan Board of Works must frame in the interval, was declined. Thereupon opposition was offered to the renewal in every case which did not show a due regard for structural and sanitary requirements. The justices overruled the objections, but intimated that no future neglect of such wholesome regulations would after this year be tolerated by the bench.

The requirement that licensed premises shall be so situated as to preserve the meat while setting from offensive effluvia means a step for the protection of the public health; and the sooner the condition that such premises be properly lighted from the roof is made binding, shall we be able to repress the epidemic of brutality to which children are trained from tender years by witnessing the slaughter of sheep, pigs, and beeves in sheds with open doors.

INFECTIOUS CABS.

Sir,—The case which has been in several papers of the unhappy man who was conveyed to the Charing-cross Hospital in a cab, and from thence to the workhouse in another, in a most filthy state, induces me to appeal to you,—who have always shown yourself so ready to aid in all schemes for the general good, and expose in your paper all neglect of sanitary laws,—to ask you to make public (should you consider it a good one) a suggestion for preventing all such unpleasant risks as may, and probably do, occur from the transmission of diseased or filthy persons, from place to place, in conveyances which are for the use of the general public. My idea is, that at *every* cab-stand there should be stationed cabs for the service of the different hospitals and infirmaries, with the name of the respective establishments in whose employ they are on the back of the cab; and that a heavy fine should be inflicted on persons removing any who are sick, dirty, or unfit for conveyance in a public vehicle which has not a hospital name on it.

These cabs should be in the pay and under the supervision of the hospital authorities, and be easy and roomy, with proper accommodation for the removal of the sick and suffering.

Atticas.

WASHABLE CEILINGS.

Sir,—In reply to your correspondent on the subject of washable ceilings, I have been thinking that perhaps floorcloth or millboard might be strengthened with wire-work or wood lattice-work, or that thin sheet metal might be used, embossed a little, to strengthen it.

S. I.

The Farnley Iron Company suggest the use of white glazed fireclay tiles, similar to those used for the Albert Hall, South Kensington.

DAMP STRONG ROOM.

Sir,—Your correspondent "C.," who complains of damp in his strong room, may effect what he wants by depositing a quantity, say half a bushel, of quick lime on the floor of the room, or he may put it into a box without the lid. The lime must be removed from time to time as it slakes and gets saturated with the damp.

Robert McDermott.

POST PILLARS.

Sir,—You agree rightly with regard to the colour of the pillar-posts, as lately painted; but a simple decoration in the shape of a band, in black or dark colour, at the top and bottom, would greatly improve them. G. S.

THE RAINFALL.

Much has been written and said on the subject of the drought of the past summer, and, as it may now be considered to be over, it may interest some of your readers to know that, notwithstanding this has been an extraordinarily dry year in regard to the fall of rain, not only in this country but in India, America, and other parts of the world, there is reason to believe that the general flow of the rivers of England has not been affected to the extent that may be supposed, or the amount brought down to a lower discharge than that of any previous year.

I have lately taken the opportunity of examining and studying a series of gaugings on a small river in the eastern part of England, that now extend for more than twenty years back; and I find that in taking the years divided into periods from October 1st to September 30th, and comparing the mean annual flow of the river referred to during these periods, the flow during that period just past, viz., October 1st, 1873, to September 30th, 1874, has been by no means the lowest during the last twenty years.

The same period in 1858–59 gave a considerably less mean annual flow. The period 1854–55 was also somewhat less. The periods of 1864–65 and 1863–64, however, gave a higher discharge respectively, but by a very small additional quantity. The next in consecutive order was the period 1870–71, but here a jump took place, and the flow increased by a larger quantity.

The total rainfall in the district where the gaugings were taken, in the foregoing periods, was as follows:—

In 1858-59	.....	24·32 inches.
„ 1854-55	.....	23·06 „
„ 1873-74	.....	19·00 „
„ 1864-65	.....	23·29 „
„ 1863-64	.....	19·24 „
„ 1870-71	.....	25·80 „

It will be seen from the above that the lowest flow has not occurred in that year in which there was the lowest rainfall. And from the deductions that have been made from these observations, it appears that in those rivers that spring out of the chalk, or pass through, and whose springs are thus supplemented from the cretaceous formation, the flow is frequently more affected, for a greater quantity or a less, by the rainfall of the previous year than by the rainfall of the year passing.

It is, therefore, very probable that unless we

should have a copious winter rainfall the lowest flow in those rivers, such as the Thames, Wandle, Colne, Wey, Lee, &c., and in the deep chalk springs that supply them, will occur in one of the autumn months, probably September, of next year, and will not have been in this.

Nath. St. B. Beardmore.

OLD-FASHIONED RACK AND PULLEY FOR BLINDS SUPERSEDED.

I have removed all my racks, and have attached the pulley by an S hook to the eye of one of Hodge's indiarubber door-springs, the other eye of which is fastened below to his usual brass hook. It answers admirably; the line is kept well stretched, no matter how the weather varies. It is quite a comfort to get rid of the rack bother.

H. T. E.

ST. NICHOLAS'S CHURCH, LIVERPOOL.

Sir,—I am glad to learn from Mr. Picton's letter in the last number of the *Builder*, that the church of St. Nicholas, Liverpool, is in no danger of being pulled down. But it was distinctly stated, a few weeks ago, by the *Liverpool Mercury*, not in a letter, but in an apparently editorial article, that "part of the churchyard of St. Nicholas would be taken away, and the church rebuilt." At this announcement I was really alarmed, and with good reason, having had some experience of the Bootian indifference to objects of architectural interest and beauty in Liverpool, in which, as Mr. Picton well knows, there is too much disposition to sacrifice such objects if supposed to stand in the way of some fancied utilitarian improvement. It was the appearance of another letter in the *Mercury*, approving of the scheme in question, which induced me to appeal to the *Builder*.

Mr. Picton denies that the Liverpool St. Nicholas's Church is an imitation of that of Newcastle. Though I believe the design of the former was suggested by the steeple at Newcastle, I am very ready to admit its claim to be considered an original composition; as the lantern, unlike the Newcastle example, rests directly on the tower, in the manner of that of St. Ouen at Rouen. Mr. Picton's praise of it confirms my opinion that it is the most poetic architectural structure of its class in the town.

As to its date: knowing it to have been erected some time in the teens of the present century, I said, in my letter, that it was built about sixty years ago, which sixty somehow was changed to eighty in printing.

Samuel Huggins.

HASTINGS TOWN-HALL.

Sir,—The proceedings of the council, recorded in your last impression, and in the local journal, show how desirable it is that professional advice should be taken in the selection of designs, as many members supported the opinion that the competition should be limited to those who had asserted their compliance with the single stipulation as to cost.

It did not clearly appear if the County Surveyor, who is to report on the designs, is to limit his attention to cost, or if he is to advise on the relative merits of the designs as to arrangement and composition, and the importance of securing professional advice as to all these matters is my excuse for again venturing to trespass on your space. As these latter points can be determined only by special knowledge and training, it will, I am sure, be no disparagement to the County Surveyor to say that it would have been more generally acceptable to competitors had one of the eminent architects referred to in the course of the discussion been retained in the matter.

A Competitor.

PROPOSED ERECTION OF A FEVER HOSPITAL IN BROMPTON.

At the last meeting of the Metropolitan Asylums Board, the Board proceeded to consider a uniform plan for the permanent reconstruction of the Hampstead Asylum, submitted on 26th September last.

Mr. Currie, in moving that the plan be approved and adopted, and forwarded to the Local Government Board for their sanction, said the present building at Hampstead was in a dilapidated state, and it was desirable that a new building should be erected which would serve the purpose of a school for imbecile pauper children and the reception of aged imbeciles, and when necessary to be used in the event of an epidemic breaking out, for the reception of patients suffering therefrom. The cost was estimated at 80,000*l*. There was no asylum for the reception of fever patients in the north of London.

Mr. W. H. Wyatt said if it were proposed to erect a new building, and not utilise a brick of the present buildings at Hampstead, they might as well build it in a fresh place. He thought the best spot would be at Brompton, on the ground belonging to the managers, and leave Hampstead for the reception of fever cases.

Dr. Cortis objected to building on the site at West Brompton. It would be better to sell the land, for which they would realise a sum of money which would half erect a new building.

An amendment was moved and seconded, that the report be referred back to the committee to consider the desirability of erecting a new building at West Brompton, on land belonging to the managers, instead of at Hampstead.

After some further discussion, both the motion and the amendment were withdrawn, and it was resolved, on the motion of Mr. E. H. Currie, that the whole matter be referred to the General Purposes Committee for consideration, and to report what further accommodation was necessary for paupers for whom that Board was called upon to provide.

THE WANDSWORTH BOARD OF WORKS NEW BUILDINGS.

We hope an authoritative contradiction, or satisfactory explanation, of the following, will be given. It is from the *South London Chronicle*:—

"Before the Wandsworth Board of Works adjourned last week, it was stated that all the joints of the hot-water piping had given way, and that in order to make the pipes serviceable, the whole of them would have to be taken out. The case seems to be one of those at which unprofessional men can only express the utmost astonishment. The new Board-room was completed not six months ago, and the contractor has not even yet been paid the whole of his claim, and yet the elaborate system of hot-water pipes, which was supposed to have been done 'in a workmanlike manner,'—whatever that now means,—which cost a good price, and which was left and passed as though ready for use, is found to be worthless. To our untutored minds, the workmen seem all through the job to have tried their hardest 'how not to do it.' Mr. E. D. Berry, the eminent hot-water engineer, of Westminster, has been consulted, and he, after examination, seems to be of opinion that not one of the joints was properly finished. In order to get at the pipes, the workmen have had not only to take down the iron screens let into the walls, but have had to break the walls themselves all round; and as if to render their job thorough, it seems that the builders built the pipes into the brickwork, so that to get at the pipes it has been necessary to damage a large portion of the brickwork, and actually to cut the wooden joists, some of which were laid directly across the pipes. The matter is left with the committee: all the committee can do is to order the necessary works to be done; these will cost 100*l*. Doubts are expressed in some quarters upon other points connected with the new building; and it is said that before long it is probable that the Board will have to sanction further outlay to remedy defects or supply deficiencies."

WESLEYAN CHAPEL AND SCHOOL-ROOM, SOUTH NORWOOD.

The plans of Mr. Alex. Lauder, architect, of London and Barnstaple, were selected in a limited competition. The tender of Mr. Smith, builder, of South Norwood, has been accepted, and a contract entered into for the sum of 4,620*l*. The foundation-stone of the school-room was laid in September, by Mr. T. Matthews, of Shooter's-hill. The memorial-stones of the church were laid on Wednesday, October 14th, 1874, by Messrs. R. Waterman, of Croydon; W. W. Baynes, of West Croydon; T. R. Crowle, of Kensington; and J. Marsden, of Bolton.

This is one of the churches inaugurated by the Lycett Provincial and Metropolitan Church-Building Fund, and is intended to seat 1,020 persons.

The premises comprise the church, a large school-room, four convenient vestries, and a ministers' vestry. It will be built of bricks, with freestone and other dressings.

The clerk of the works is Mr. R. Gribble, of Barnstaple.

CONTRITION OF MINE MANAGERS, AND "THE BUILDER."

It appears that mine-owners and their managers, in the North of England, have to thank the *Builder* for drawing their attention to "overcrowding," "want of water," and neglect of common decencies, on their estates; for at a meeting last week of the Consett Local Board of Health, Mr. Liddell, one of the "serangs" of the Consett Ironworks, complained of the Board's recent prosecution of tenants for overcrowding. People, he said, were now afraid to keep lodgers, and it was with the utmost difficulty he procured men to carry on the ironworks. He considered that the inspector was carrying out the new Act too rigidly. To the evident astonishment of Mr. Liddell, the chairman of the Board (Mr. Jenkins), who happens to be the general manager of the Consett Ironworks, rose, and with some warmth of feeling, said he entirely disapproved the complaint just made by one of his managers. He had been horrified at reading in the *Builder* that so much overcrowding, filth, and immorality existed at their own doors. He had since found that the London papers had understated the facts. He quite approved of the action taken by their sanitary inspector, and hoped that he would continue to bring the delinquents to justice, *even though the whole of the ironworks should be stopped*. He believed, however, that the overcrowding did not result so much from a want of house accommodation, but simply from a desire on the part of the Irish to get together in order that they might be jolly.

The complaints in the *Builder* are evidently bringing forth good fruit, and Mr. Jenkins is a man of courage to be willing to stop his ironworks, employing some 10,000 hands, rather than that sanitary measures should be defeated; but it is rather singular how managers and owners of coal and iron mines could live near to or pass through villages of abomination in every way, without seeing, smelling, or hearing the state of affairs.

SCHOOLS OF ART.

The Dorchester School of Art.—The annual meeting of this institution took place in the Town Hall. The walls of the room, as also the front of the platform, were set off with a large collection of drawings in pencil, chalk, sepia, wafer colours, and oil,—the productions of the pupils,—and these attracted general attention. The chair was occupied by Mr. John Floyer, M.P., the president of the school, also present being Mr. W. E. Brymer, M.P., the Mayor and Mayoress of Dorchester (Mr. and Mrs. G. J. G. Gregory), and other influential persons.

After the president had addressed the meeting, the hon. secretary (Dr. Robinson) read the report, which stated that during the past year the school had been attended by sixty-two students. The committee congratulated the school on Mr. Turner's favourable report. The committee hope some means may be devised of procuring a building solely for school of art purposes. The report was adopted.

ACCIDENTS.

Accident at the Midland Terminus Hotel.—Dr. Hardwicke has held an inquest at the Midland Terminus Hotel, St. Pancras Station, Euston-road, on the body of Mr. Charles Stewart, aged 33, a member of the firm of Messrs. Barbour Brothers & Co., merchants, Manchester. The evidence showed that Mr. John M'Millan, of Windermere, and deceased, came down the principal staircase of the hotel together, Mr. M'Millan being slightly in advance of deceased. On reaching the first floor landing, where there is a sudden dip in the balustrade of the staircase, Mr. M'Millan heard a noise, and on looking round saw the deceased falling midway between the balustrade and the flooring of the main corridor beneath. Deceased had received a fracture of the skull of such magnitude that with the exception of 3 in. it extended entirely round the head. Death was almost instantaneous. Mr. M'Millan stated that deceased was perfectly sober, and a question arose as to the dangerous state of the balustrade, which was viewed by the jury and considered exceedingly so at the place where deceased fell, there being a sudden dip of 4 in. The coroner said that mere architecture must give way to public safety, and the manager stated that the architect had said it might be altered. A verdict of "accidental death" was recorded.

Fatal Scaffold Accident.—Mr. Langham has held an inquest at St. George's Hospital on the body of Mr. John Newington, a builder, of Osnaburgh-street, Fulham, aged 51. Deceased was upon a scaffold erected at a house in Stanhope-gardens, South Kensington. He was in the act of giving directions to his workmen, and while standing upon a board it tipped up, throwing him to the ground upon a heap of bricks and rubbish. He was picked up in a state of insensibility and taken to the hospital, where he was found to be suffering from a fractured skull, a dislocation of the collar-bone, and other injuries. He died from the effects of the injuries. Deceased before his death said there was no blame attributable to any person, and that the board had got accidentally shifted. The jury returned a verdict of "accidental death."

Scaffolding Accident at Brandling-place, Newcastle.—An inquest has been held touching the death of Thomas Marshall, thirty-eight years of age, a bricklayer. The deceased, who was working along with other men on a scaffold, was helping to lift a large stone, when some of the supports of the scaffold gave way, and they were all precipitated to the ground. On being picked up he was found to have received serious injuries,

which necessitated his removal to the Newcastle Infirmary, at which place he remained until his death. A verdict of "died from injuries received by a scaffold giving way" was returned by the jury, who were of opinion that there had been a defect in the timber of which the scaffold was constructed.

Fall from a Ladder at Rotherham Parish Church.—An accident has occurred at Rotherham parish church, which is undergoing extensive repairs. A labourer was ascending a ladder in the chancel, when a portion of the brattice-work fell upon him, and knocked him off the steps. He fell to the ground, a distance of 25 ft., and when picked up was found to be seriously injured. His face was besmeared with blood, and several bruises were on his head and shoulders. The man's injuries are supposed to be internal.

Gas Explosion at Lymm.—An explosion of gas has occurred at Lymm. Miss Rowlinson, assistant to Mr. E. Brown, grocer, was opening the branch shop at Booth's-hill, when she perceived a strong smell of gas. Mrs. Samuel Broady, a neighbour, lighted a match, when immediately an explosion occurred, dislodging four bricks out of the window, breaking several bottles, and yet, strange to say, the window itself entirely escaped, whilst outside the lead over the window was entirely shattered. Mrs. Broady was much injured about the head and neck.

CHURCH-BUILDING NEWS.

Blakesley.—The church here has been re-opened. Prior to the restorations which have been just completed, the tower window was almost obliterated, the mullions having been taken out and the space partially built up with brick, and a small door underneath it for the use of the bell-ringers. It has now been restored to its original character, and only needs a little stained glass. It is a perpendicular window, with two mullions and a four-centered arch. The jambs of the window were there, and in good condition; the head was also there, but very dilapidated. The doorway has been closed up, and the entire tower pointed and restored to its original character. The coping is almost entirely new, though the old and curious Early English corbels have been retained. Passing to the north side, we find that the western most window of the north aisle, the head of which had been removed and a wooden lintel supplied in its place, has been restored. The arch inside has also been restored in character with the other. At the north side of the chancel, in a line with the north aisle, there is an entirely new organ-chamber with arches, one opening into the chancel and the other opening into the north aisle. These arches are both of a Decorated character, the inner members being supported by carved corbels, and each arch having hood mouldings with foliated bosses as terminations. On the north side of the organ-chamber there is an Early Decorated window, with soffit of Early Geometric character. At the end of the chamber there is a door, also of a Decorated character, in keeping with the rest, for the minister and choir. Nothing has been done to the chancel, though it is in a most dilapidated condition, and stands in very great need of restoration. The architect included in his plan of the restoration designs and estimates for the entire restoration of the chancel, together with its extension to its original dimensions, as it was quite evident it had been shortened some 10 ft. The plan also includes the substitution of a high-pitched roof for the present one. But this portion of the edifice does not belong to the parish, and there appears to be some difficulty about carrying out the alterations proposed. It is hoped that soon all difficulties may be overcome, and the restoration effected. It has not been necessary to do anything to the roofs, save to clean and revarnish them, as new ones were put on by the same architect some five-and-twenty years ago, and they are still almost like new. The inside of the edifice has also undergone a restoration. The walls, which were formerly plastered, have been cleaned and re-pointed. The jambs, &c., of the windows have also been cleared of the plaster, and restored throughout. The gallery which defaced the west end has been removed, and the tower arch thrown open and restored. It was formerly filled up with brickwork, and plastered over. A new ceiling has also been put beneath the belfry floor. The arches and piers have been cleared of their whitewash and colouring; and the whole of the church has been re-seated with pitch-pine seats, the seat-ends having mouldings and carved paters. The old seats were of the old-fashioned, pen-like character. The passages are paved with black, red, and buff tiles. The south chapel has been restored and fitted up with seats similar to those in the body of the church, though of a less ornate character, for the use of the children. The chancel looks very dilapidated in contrast with the rest of the church. The work of restoration has been carried out by Mr. Gee, of Daventry, from the plans and under the superintendence of Messrs. E. F. Law & Sons, of Northampton, at a cost of about 1,500*l.* towards which between 1,200*l.* and 1,300*l.* have already been subscribed. The estimated cost of the chancel is 520*l.* The mouldings on the arches of the south aisle are terminated with carved heads, while the terminations on the north side have never been carved. These the architect and builder have agreed to do at their own expense. The church is warmed by the apparatus of Porrit, of Bolton, Lancashire.

Arundel.—The old parish church of St. Nicholas, at Arundel, which has been closed for some time during the process of restoration, has been re-opened for the performance of Divine service. The work was entrusted to Sir Gilbert Scott. Under Sir Gilbert's directions the galleries which hid the proportions of the arches in the nave have been removed; and pews have been swept away in favour of oak benches. The oaken roof and the external stonework have been restored, the contractors for these works having been Messrs. Wright Brothers & Goodchild, of Croydon. The organ has been removed from under the tower to the north transept, and it has been restored, improved, and added to, by Mr. Corps, of London, at a cost of 450*l.* The instrument now sadly wants a case. In connexion with this work a controversy sprang up between the vestry and the Duke of Norfolk, relative to the collegiate chapel to the eastward of the tower. The archway opening into this chapel is now roughly blocked up with brick-work, but it is hoped that his Grace having now asserted and sustained his right to this chapel, will remove this disfigurement from the church. There being no chancel, a low wall has been built to enclose a space for the choir, who are accommodated with carved oak stalls, executed by the Messrs. Robinson, of High Holborn. Beyond this space is the sanctuary, which is paved with encaustic tiles, from the works of Mr. Godwin, Lugwardine, and separated from the choir by rails of burnished brass. The altar is approached by three marble steps, the sanctuary terminating in a semi-hexagon, two sides of which are filled with light ironwork, while in the centre is a reredos. This is of carved oak, painted and gilt, and stands upon an alabaster pedestal. There are five compartments, the central and largest containing a representation of the Saviour seated as King of the World; in the two on either side of this are represented the Virgin and St. John the Baptist, while the two outside compartments are as yet blank, but will probably be filled with paintings of St. John the Evangelist and St. Peter. The reredos is surmounted by a cross. Messrs. Farmer & Brindley have executed the carving, and Messrs. Clayton & Bell the painting of this work of art, which we understand cost 250*l.*, and is the gift of the Marchioness of Bath, who besides gave the sum of 1,000*l.* towards the general restoration. The whole of the work undertaken by the Restoration Committee has involved an expenditure of 7,000*l.*

Llanelly.—The new church of All Saints, Llanelly, has been consecrated. The new church is situated in Goring-road, about a mile from the station. The architect is Mr. G. Street, R.A., of London; and the builder, Mr. Thomas Williams, Llandaff. The plan is cruciform, and the style Early English. Its present length is 110 ft. by about 45 ft., and in its present condition it will accommodate 600 persons, but at a future time it is intended to add 30 ft. to the nave, and thus give accommodation for 200 more. The building is of native stone, with Bath stone dressings, and comprises a nave, two aisles, north and south transepts, choir, north chancel aisle, and vestry, with a tower (not yet finished) on the south side. The chief entrance is on the south-west side; there is also an entrance near the tower. The roof of the nave is gabled, that of the choir is vaulted and lined with polished oak, the roof of the chancel being of stone with stone arched bearings. The chancel has a five-light window filled with plain glass, which it is hoped will soon be replaced with decorated glass. The stalls in the choir are of carved oak, of the same pattern as the pulpit, which is supported by a carved stone pillar. The chancel is raised two steps above the ordinary floor, and is separated from the nave by a stone screen, with fancy railwork and gates above it. The chancel floor is of encaustic tiles, from the manufactory of Mr. Godwin, of Lugwardine, and the floor of the nave and aisles is of wood. The nave is separated from the aisles by three arches on each side, and the area is furnished with chairs. The chancel and transept will be lighted with gas coronas, and the nave and aisles with brackets. The baptistery and font are at the west end. The latter, which is of coloured marble, with carved stone ornaments, is the gift of the teachers and scholars of the Sunday school. The organ is by Messrs. Hill & Son, of London, and is placed beneath the tower.

Tuxford.—The old parish church of Tuxford is now undergoing restoration. The whole of the plaster has been removed from the wall of the north aisle, the stonework repointed, new lights inserted in the windows, and new mullions where the original were decayed. A few decorations have also been placed on the exterior. Much yet remains to be done, both externally and internally.

DISSENTING CHURCH-BUILDING NEWS.

Bridlington-Quay.—A new Baptist chapel has been opened here for divine service. The foundation-stone of the edifice was laid in October 1873. The cost of the chapel, including the land, is 3,400*l.*; towards which the church has raised, by the sale of the old chapel, and by bazaar and subscriptions, 1,000*l.*, leaving 2,400*l.* to be raised by the committee. This amount has already been reduced to 1,793*l.* A tower and spire rise at the south-east angle of the front; the total height, when finished, will be 98 ft. The edifice is built of yellow brickwork, ornamented with coloured bricks, arranged in bands and patterns, while the windows and dressings generally are executed in Whitby stone. The windows are glazed with cathedral tinted glass, arranged in various geometrical designs. The east gable, facing Quay-road, consists of a large five-light window, with traced head. Entrance is gained through a recessed and arched double doorway, the arches being supported by stone shafts with moulded bases and carved caps. The vestibule is paved with tiles arranged geometrically. The chapel is in the Early Decorated style of Gothic architecture, and comprises a nave 75 ft. long and 34 ft. wide, with shallow transepts, which are divided from the nave by arches of parti-coloured bricks, supported on octagonal pillars of stone, with mounted caps and bases. It is capable of accommodating 440 persons on the ground floor. At the east end is placed a gallery, which will hold 65 persons; access is gained by the tower staircase. The seats are open benches of red deal, with cut ends and panelled framing. The pulpit and Communion framing are executed in pitch pine, French polished; at each angle of the pulpit there are small shafts with carved caps, the panels are cusped and perforated. It is lighted by means of coronæ, suspended from the ceiling. The warming is by Haden's system of warm air. The baptistery is lined with Maw's blue and white tiles. The roof is open timbered, with framed trusses and curved ribs, and is plastered between the rafters. All the woodwork exposed to view is stained and varnished. The minister's and general vestries are at the west end of the building, over which is the orchestra, opening into the chapel by a large moulded brick arch springing from carved stone springers, with moulded stone label. The school is intended to be erected behind the chapel, and will be of the same style of architecture, consisting of a large room 50 ft. by 40 ft. Mr. Samuel Musgrave, of Hull, is the architect, under whose superintendence the work has been done. The contractor was the late Mr. John Rennard, of Bridlington-Quay. Sub-contractors: glazing and gasfitting, Mr. Oliver; staining and varnishing, Mr. Bullock; heating, Mr. Haden, of Trowbridge.

York.—St. Saviourgate Chapel, York, has been reopened for divine service, after having been closed during the last five weeks. A series of internal alterations has been effected under the superintendence of the Messrs. Atkinson, architects, of this city, the chief of which is the removal of the organ from its old station at the rear of the Communion space, and behind the pulpit (at the north end of the chapel), to the gallery immediately over the entrance to

the buildi g. For this purpose the gallery has been enlarged, the effects of which are the rendering of the vestibule to the chapel more convenient and commodious, the space formerly occupied by two pews in the body of the chapel being thus appropriated. The large pew extending across the north end of the chapel, used by the choir, has also been removed, and in its place an open screen has been erected, separating the north transept from the body of the chapel. Behind this screen is the Sunday-school accommodation during teaching hours, the children being placed in the organ gallery during service. The tradesmen who have carried out the alterations were Mr. Brown and Mr. Coulson, joiners' work; Mr. Pearson, painter; and Mr. Postill, organ-builder.

Shrewsbury.—The re-opening of the Congregational Church, Abbey Foregate, after being closed for some weeks for the re-decoration of the interior, has taken place. The panels of the ceiling have been repainted a light grey colour, with maroon cornice, lines and centre. The ceiling over the organ is of the same tint, with a different pattern of scroll-work. The walls are a light cream colour, relieved by a Grecian border on painted buff-colour margin. The iron pillars supporting the galleries are a deep maroon colour, relieved by vermilion and grey tints. The panels under the organ-gallery bear Scriptural texts. The woodwork has been all polished. The organ has been entirely rebuilt by Messrs. Nicholson & Lord, of Walsall. The organ-case has been raised 2 ft., and the side wings each extended 1 ft., and six large front pipes added.

VARIORUM.

"The London and North Western Panoramic Guide" (Bemrose & Sons), edited by R. Kemp Philp, with some maps, gives a description of the principal objects of interest over the main line and chief branches, and all for 6d.——Everyone has heard of "Lloyd's," but may not know how the institution grew up. *Cassell's Magazine* says,—"Of all the queer ways by which men have immortalised their names, there are not many queerer than that by which a certain Mr. Lloyd appears to have done it, and to have done it most effectually. Little or nothing is known of this worthy, except that some time during the last century he kept a coffee-house in or near Abchurch-lane; and as he had the good fortune to be largely patronised by shipowners and captains, 'Lloyd's Coffee-house,' or the abbreviated 'Lloyd's,' came in course of time to be the recognised rendezvous for all who were in any way interested in shipping matters. Mr. Lloyd died nobody knows exactly when, and his coffee-house has long since disappeared; but his name still shines in letters of brass at the Eastern end of the Royal Exchange, and is familiarly known in the utmost ends of the earth. So curiously has the name of the lucky coffee-house keeper come to be identified with shipping interests, that it has in many instances been adopted by various Continental associations; while it is said that there are still people who believe that he is the great potentate in shipping matters, and who occasionally write to M. Lloyd, Londres."——We get some hints on cleaning glass from the *Household Guide* for October:—"As a rule it is not well to use soda for washing table-glass, for unless at once rinsed off it roughens the surface and destroys its brilliancy. In some cases, however, where the articles are greasy, as in butter-coolers or cream-jugs, some agent of this kind must necessarily be used, but it should at once be well rinsed off with cold water, and the article wiped; a little soda or soap may be employed, but wood-ashes are less prejudicial, and give greater brilliancy. Generally, in washing glass, cold water alone is sufficient; it should be wiped with a *clean* linen cloth, and afterwards polished with a wash-leather. Decanters should be washed with cold water only, and if this is done frequently, cold water alone will be sufficient; a dirty decanter will spoil any wine which is put into it. If decanters should, however, become at all encrusted, they may be cleaned by washing with barleycorns or broken egg-shells, but the best though not in appearance the most cleanly method of scouring them, is that of putting into them a little of the 'fine,' or other dust and rubbish swept up in bed-rooms, which has the property of fetching off any sediment from the glass. A little of this, with water and well shaking, will soon restore transparency, and the decanter must, of course, afterwards be well rinsed. Lamp-globes and chimneys ought to be washed with soap or soda once a week, when in constant use; and these must be most carefully dried, or they will inevitably crack when warmed by the flame of the lamp."——Mr. Wyld, always prompt, has just published the first Map of the Fiji Islands, which have lately become invested with interest. There are 255 islands in this group, of which 80 are inhabited. The total area of square miles is 7,403, and the number of acres 4,738,350. The largest island is Viti Levu, which embraces 4,112 square miles. The heights of the mountains are given, as well as the names of the towns, villages, and districts.

Miscellanea.

A Bradford Warehouse.—This is the age of big things in Bradford. Messrs. Law, Russell, & Co.'s new warehouse in Vicar-lane is one of the largest and most commodious, and is thus described by the local *Observer*. The site occupied by the new building is at the corner of Vicar-lane and Field-street, and it was the last piece of ground available for such a warehouse on the new level. The shape of the site somewhat resembles the quarter of a circle, and on this account required exceptional treatment. Externally the only architectural feature is the portico which, with the balconies alone, extends to the full height of the building. The successive cornices are supported by fluted columns, with elaborately carved capitals. The Vicar-lane elevation presents a plain ashlar front, with circular-headed windows on the ground-floor, while the Field-street side is simple wall-stone. Opening into Field-street is a gateway 17 ft. wide and nearly 20 ft. high. This is hung with a pair of wrought-iron gates, which enclose a covered court-yard. All the gas-brackets and similar fittings, which are in bronze, as well as the entrance-gates, have been supplied from the Midland Architectural Ironworks, Coventry. The building contains seven floors, each of which covers an area of over 9,000 square feet. The heights of the various rooms are as follow:—Basement, 13 ft.; ground floor, 14 ft. 6 in.; first, second, third, and fourth floors, 13 ft. 6 in.; and fifth floor, 11 ft. to the spring of the roof. The total height from the level of Field-street to the top of the parapet is 91 ft., while the dome adds 17 ft. more to that. There are about 1,678 lineal feet of counters, or nearly a third of a mile, while the floor space is extensive. The architects were Messrs. Lockwood & Mawson. The work has been done by Messrs. A. & A. R. Neill, contractors, under the superintendence of Mr. Dilworth, clerk of the works.

Church Fire in Aberdeen.—At about a quarter past eight o'clock last Friday night one of the most alarming fires that have occurred in Aberdeen for many years broke out in the Established East Church, one of the finest and largest ecclesiastical edifices in Aberdeen. It was built between the years 1834 and 1837 from designs by the late Mr. Simpson. The fire broke out in the roof, close to one of the sunlights, and very shortly afterwards the flames burst out with alarming force. The roof, which was of oak, and partly covered with lead, burned with great rapidity, the liquid lead running down the slates, and igniting the roof in every part. Within about thirty minutes the roof fell in with a crash, and the interior of the building soon became one mass of flame. It was a long time after the arrival of the fire-brigade before the engines could be got into working order, and by that time all hope of saving any part of the fabric was at an end. The efforts of the fire-brigade, naval reserve, and military were then directed to confining the flames to the East Church, but the heat was so intense that the steeple of the West Church, a very old structure, and connecting the two together, became ignited, and before thirty minutes had elapsed was one mass of flames. The steeple contained a very fine peal of bells, erected about fifteen years ago, and they were entirely consumed. Twenty minutes after the fire had seized upon it, the steeple fell with a tremendous crash, and the flames still raged with great fury, forcing their way into the aisle of the church, called "Druin's Aisle," where were several monuments and other ancient memorials of rare value.

Architectural Association.—The Session will be inaugurated as usual with a *conversazione*, to be held at 9, Conduit-street, on Friday evening, the 30th inst.

Dedication of the New Masonic Hall, Liverpool.—Lord Skelmersdale, the R.W.P.G.M. for the western division of Lancashire, has held a Provincial Grand Lodge in the new Masonic Hall, Hope-street. In addition to the ordinary annual business, the proceedings included a festival for the inauguration of the new hall. The Provincial Grand Master having taken his place on the throne, Bro. H. S. Alpass, P.G.S., delivered an address, in which he pointed out that for some years past, as Freemasonry had progressed in Liverpool and the neighbourhood, there had been a continually increasing objection to the holding of the lodges in public-houses, and it was resolved to erect a Masonic hall which would be available for a number of lodges. The building which they obtained, however, was soon found inadequate to meet the requirements of the still rapid increase of the order, and another new hall became absolutely necessary; in fact, the old building was occupied by different lodges every night in the year, and the progress of Masonry was literally stopped by the want of ample accommodation. The Masonic hall committee, therefore, took the matter in hand, and the Liverpool brethren readily responded to the calls which were made upon them. In twelve or eighteen months they raised 3,000*l.* towards the building. On behalf of the brethren, he wished to say that they had to thank the architect (Bro. Danson) for the excellent accommodation he had provided for them, and there could be no doubt that with such improved accommodation the order would still further increase in Liverpool.

Coal-Boring Operations in India.—The Indian papers contain the following interesting particulars of coal-boring operations in the Nizam's dominions:—"On the right bank of the Godavery, some eight or ten miles below the town of Budrachellum, and about four miles from the bank of the river, extensive boring operations have been carried on under the supervision of Mr. Heenan, superintendent of the Nizam's coal-fields. In one bore-hole a good seam of coal was struck at about 320 ft. from the surface, also two thinner seams at a lesser depth of a fair quality of coal. The Singareney coal-field has also been explored by borings, and it is found to contain four very extensive seams, which are superior in quality to any yet found in India. In one of the borings the lower seam was found to be over 40 ft. in thickness. Mr. Heenan has put a shaft down to the upper seam and a large quantity of coal has been excavated, which is on its way to Bombay in order to be compared with English coal. Borings have also been put down about midway between Singareney and the Godavery, where in every probability coal will be found. A very close examination has been made by Mr. Taylor, coal-viewer to H.H. the Nizam's Government, and Mr. Heenan, of the carboniferous formations lying in this district, and several places have been found where in every likelihood large deposits of coal will be discovered."

The Production of Lock and Mortised Bricks.—In speaking of the productions at the Sarn Terra Cotta Works, near Westbury, Salop, the *Shrewsbury Chronicle* says:—"On the score of ingenuity, one of the most prominent features is the process by which the lock and mortised bricks are obtained. The machinery itself will be readily appreciated when the fact is borne in mind that the bricks, while producing workmanship infinitely superior in appearance to walls built with pressed bricks, being tongued, grooved, and locked at intervals and at each angle, are also stronger than the common hand-made brick, besides possessing the additional recommendation of effecting a saving of two-thirds in the materials used. These lock and mortised bricks, it may be added, are capable of extensive and varied uses, and are invaluable where space and height, with solidity, are an object. Their importance is especially noticeable when required for the building of, or sustaining and retaining, embankments, sea and other walls, quays, and river frontages; as also in the erection of shafts, the construction of brewers' vats, and, in a word, the formation of all works to which bricks can by any possibility be applied. The company also produce Kough's universal ventilators. The mechanism applied is of a unique description; and it is necessarily exclusive.

Gift of a Library and Museum to Hereford.—A free library and museum, the gift of Mr. J. Rankin, of Bryngwyn, has been opened at Hereford.

The New Smithfield Police-station.—The new Smithfield police-station, which has been erected by order of the City Commissioners at the junction of Cock-lane and Snow-hill, is now on the point of completion. It is the largest in the City, and is built in three blocks of red brick, with stone facings. In addition to the usual accommodation for prisoners other buildings contain dormitories of sixty unmarried officers, rooms for eight inspectors, and married quarters for two sergeants with families. In the basement is the heating apparatus for disseminating warmth throughout the building, the kitchen, mess-room, and housekeepers' and gaolers' rooms; on the ground-floor is the charge-room and inspector's room, the muster-room, 59 ft. by 28 ft., and the instruction-room for drilling and other purposes, 34 ft. by 22 ft. On the first floor are two recreation-rooms, bath-rooms, &c., with dormitories for twenty men. A similar number of dormitories have been fitted upon the second and third floors. The top of the building is flat and covered with asphalte. The plans are by the City architect, and the works have been carried out under the supervision of the clerk of works, Mr. L. Bell, by Mr. T. R. Turner, foreman to Messrs. Higgs & Hill, contractors. The name of Bridewell Police Station will probably be adopted for the new building. The old prison, erected about 1560, and demolished in 1862, being the first of its kind, all other buildings constructed on the same principle have been called Bridewells.

An Impostor.—At the weekly meeting of the council of the Charity Organisation Society, a letter was read from the Reading Charity Organisation Society, stating that a man calling himself John Burton had applied to them for means to procure tools to enable him to work at his trade,—that of a carpenter. He referred them to a builder in London, for whom, he said, he had worked for a month. They had communicated with the reference, and had been informed that he had not had any man of that name in his employ, but that from the description given he had no doubt that the man in question had worked for him for a week under the name of Winslow. He had begged for work, stating that he had not had any food for a long time. He said his tools were away, but that if the builder would write a note to say he would employ him he could get them. He stopped work after a few days, saying that his brother-in-law had come to fetch him, and that he must go home to Birmingham; but he was seen hanging about after this. The Reading society desired to put the London committees on their guard, as it seemed as if this man made a practice of trying to get tools from charitable agencies. Burton is a little above middle height, is bald-headed, has a little hair on his face, and looks half-starved. He is apparently about fifty years of age.—*Charity Organisation Reporter.*

The Water Supply of Newcastle-upon-Tyne.—A letter from Mr. E. Brown, of Newcastle, to the chairman of the Sanitary and Water Committee, was read at last meeting of the Town Council. The writer said that observing that Mr. Newall proposes a scheme for supplying Newcastle and the district with water from the Ullswater Lake, which is estimated would involve an expenditure of a million of money, he submits that this enormous outlay is quite unnecessary, inasmuch as an ample supply of pure and soft water can be obtained at one-fifth of the distance, and he has every reason to believe one-fifth the cost. He referred to the scheme propounded by Mr. Bewick, C.E., of Haydon Bridge, and himself, for impounding the rainfall in the basin of the Northumberland lakes Crag, Greenlee, and Broomlee, being a total area of sixty square miles; thence, by gravitation, to Whittle Dene, a distance of eighteen miles, with a fall of 330 ft. Since 1868 the Hallington reservoir has been constructed, thus shortening the distance the water will now have to be brought twelve miles, with a fall of 230 ft. The town may thus be supplied with eighteen million gallons per day, and this without taking into account the present resources of Hallington and Whittle Dene.

Temple Bar.—It is suggested by Mr. W. Bardwell that the Bar should "be carefully taken down—every stone numbered to satisfy the dilettanti—by such conscientious men as the Messrs. Lawrence, and let it be rebuilt with the necessary abutments at the City boundary to the Embankment, this Embankment to be thenceforward called the Royal Avenue, or the Royal Approach; the Sovereign there to enter the City on State occasions."

Undoing a House.—The Paris residence of the late Duke of Brunswick, now in course of demolition, in the Avenue Friedland, was an extraordinary house. At the front gate was a metal button, and a visitor would have to press this. It instantly set a number of bells ringing in violent commotion. Admitted into the garden, you still found yourself excluded from the house. Another button had to be touched, and that done, you found yourself in an unfurnished hall. There was no staircase communicating with the upper rooms where the duke slept. More buttons had to be pressed, and at last you found yourself sitting in an arm-chair, and raised by a hydraulic lift apparently to the living-rooms which the duke used to occupy. By an ingenious mechanism, and touching a button, a panel in the wall was removed, and entrance gained to each room. The strong-box nearly killed the workmen who endeavoured to open it, for it sent off a mitrailleuse-like discharge. The Duke de Treviso has bought the house, and has stipulated that all the treasure discovered in it shall belong to him.

Want of Ventilation in Churches.—A correspondent of the *Lincolnshire Chronicle* states what is hardly credible in reference to a modern church in that city. He says:—"I should very much like to ask whether there is any provision for ventilation in St. Martin's Church. Not that this is the only church in the city concerning which the same inquiry may be made; but it is one of the newest, and, at least in new churches, one might expect to find some trace of modern enlightenment on the subject of vitiated air. That, as a matter of fact, it is not ventilated, appears to be beyond question. So far as I can discover, the windows do not open, but are immovably built into the fabric, hermetically sealing the building when the doors are shut; there are apparently no means of exit at the top for foul air, nor of ingress at the basement for fresh. I was there the other Sunday evening. There was a large congregation; multitudinous gas-jets burning; doors shut soon after the commencement of the service. As an inevitable consequence, the atmosphere quickly became vitiated, and continued to get more and more so, until, before the end of the sermon, the effect to any one aware of the mischief, and how easily it might be avoided, was almost intolerable."

Inauguration of the Trowbridge Waterworks.—The inauguration of the Trowbridge Waterworks has taken place amidst much joy and festivity; the illumination and decoration of the centre of the town far surpassing its appearance on any previous occasion. There was a fountain erected opposite the George Hotel, and Mrs. R. P. Long, of Rood Ashton, performed the ceremony of turning on the water, amid the cheers of thousands of spectators. The beautiful bells of the old parish church ringing forth their merry peals, and the band of the 2nd Wilts playing festive music. The water from the fountain in the Market-place was thrown to the height of about 80 ft., and, by means of lime-lights, was made to appear of various colours. The steeple of the church was illuminated, and by means of a pipe attached to it the water forced itself almost as high as the top, so that there is now no doubt about there being a plentiful supply. The workmen who had been employed on the works, to the number of seventy, were entertained to dinner, under the presidency of Mr. H. Tomlison. The vice-chairs were occupied by Mr. C. Tomlison, Mr. Bowen, and Mr. Watts.

New Harbour at Dover.—Government, it is said, will, early in the next session of Parliament, introduce a Bill for the speedy execution of a plan which has been recently agreed upon between the various public departments for the construction of a large military and general harbour at Dover. The original scheme of a huge harbour was to extend from the South Foreland to the Admiralty Pier; but the harbour which the Government have now resolved to construct will only cover an area of about 400 acres, and a depth varying at low-water of spring-tides from 1 to 6 fathoms. It will serve at once as a packet harbour, a coaling station for men-of-war of all sizes, a commercial harbour, to be used subject to the payment of tolls, a depôt for munitions of war, and a harbour of refuge on a small scale. It is expected that the Bill will pass without opposition by the end of March, and that the works will be actually commenced by June next at the furthest. These works will cost, as nearly as possible, a million sterling.

Dealing with Old Church Brasses at Ashbourn.—At the local petty sessions, September 26th, Thomas Spencer, greengrocer, &c., Ashbourn, was charged with purchasing some old metal, knowing the same to be stolen. The metal consisted of brasses, which, at the restoration of Okeover Church, about sixteen years ago, was missed. Albert Lees, miller, of Mill Dale, deposed that his brother gave him the metal produced, and on the 25th of August he took it to Spencer's shop to sell. Spencer gave him 3s. for it. For the defence, it was not denied that the brasses were stolen from Okeover Church, but there was no proof of guilty knowledge, it was urged. The magistrates gave the accused the benefit of a doubt, and discharged him with a caution. Some portion of the missing brasses was found about sixteen years ago in a soft-water cistern on the premises then occupied by a pawnbroker. At the petty sessions, Thomas Spencer was summoned under the Metals Act for buying brass under 56 lb. weight. He pleaded guilty, and was fined 1*l.* and costs.

Mr. Stansfeld at the Working Men's College.—The general meeting of the Working Men's College has been held at the institution in Great Ormond-street, under the presidency of Mr. Thomas Hughes, M.P., the president. There was a large attendance of members and supporters of the college. The chairman explained that this meeting usually took place at the commencement of the academical year, and that it was the custom to get some gentleman of eminence not specially connected with the college to address the students. On the present occasion they had secured the services of Mr. Stansfeld, who took great interest in the education of the working classes. Mr. Stansfeld then addressed the meeting, and, after some other gentlemen had also done so, the business of the evening terminated with the usual vote of thanks.

Chester Cathedral.—A correspondent of the *Church Herald* complains of the statement that there are "two candles" upon the altar of Chester Cathedral. He says: "Such is the case as far as the appearance goes, but the truth is that 'the candles' are merely tubes of white china, through each of which a gas pipe is conducted! I happen to know this," he says, "from having been in the Cathedral last Christmas, about a quarter of an hour before the daily evensong, and witnessed the lighting of 'the candles.' When first lighted they had the appearance of what they really are—gas lamps; but the verger turned them down, till the flame was no bigger than that of an ordinary candle. To some this may seem a small matter, but surely it is not seemly that gas-pipes should be carried through the altar, and that a deception should be practised with regard to 'the candles.'"

Outbreak of Fever near Sheffield.—The sanitary authorities of Ecclesfield, a village a few miles from Sheffield, summoned the proprietors of a paper-mill for failing to comply with an order of the local court to abate a serious nuisance. The mill, it seems, stands on a small stream, along the side of which rows of houses have been erected for workpeople. The stream above the mill is quite pure, but the water after passing it is choked with refuse and poisonous matter coming from the manufactory. The water is converted into a black liquid, and emits noxious gases to such an extent that a serious outbreak of fever has been the consequence. There have been eighteen deaths from fever within a very recent period in the houses on the banks of the stream, and there now are sixteen cases of fever within a radius of half a mile. The defendants were fined 10*l.* and 10*s.* costs.

Enlargement of the London Hospital.—The Governors of the London Hospital, Whitechapel-road, are engaged in carrying out an extensive enlargement of that building, which will almost double its present accommodation. In aid of this object the Grocers' Company have presented the authorities with a donation of 20,000*l.*, to be expended in the erection of a new wing to be called "The Grocers' Wing." This wing is from the design of Mr. Charles Barry, and has a frontage of 120 ft. and a depth of 40 ft., each floor being detached by a lobby. The building will, when completed, afford bed accommodation to 200 additional patients. Adjoining this wing and fronting East Mount-street, a *post-mortem* room and mortuary, surmounted by a ventilating shaft and water-tower, are being constructed at a cost of 10,000*l.*

Fall in Prices.—The comparison in prices between this year and last continues to be most instructive as to the great change in favour of the consumer which has occurred in the twelvemonth. The fall in wheat is from 64s. 2d. to 46s. 9d., or more than 27 per cent.; in coals from 34s. to 24s. 6d., or 28 per cent.; in Scotch pig-iron, from 108s. 6d. to 85s. 6d., or 21 per cent.; in copper, from 84l. to 78l. 10s., or 7 per cent.; in tin, from 126l. 5s. to 93l. 10s., or about 25 per cent.; in cotton, from 8¼d. to 7 11/16d. per lb., or 10 per cent.; and in wool, from 20l. to 18l. 5s., or 8½ per cent. These are immense differences in the prices of the chief articles of food for the masses and of the leading raw materials of manufacture, and all are favourable to the more profitable working of trade.—*Economist.*

New Training College for Darlington.—A new training college, under the auspices of the British and Foreign School Society, is now in course of erection at Darlington. There are forty-one of these colleges in England and Wales, with accommodation for 3,094 students. Encouraged by a subscription list of nearly 4,000l. from friends in Darlington, the committee of the Society bought a site for a permanent institution close to the town, and a building, which will cost about 15,000l., to accommodate about seventy-five resident female students, and be ready at Michaelmas next year, is partially erected. When the erection is finished, the Government grant and the fees of the students will, it is expected, make the institution almost self-supporting.

Excavations at Grey Abbey, Belfast.—Some recent excavations at these remains (lately mentioned by us) made at the suggestion of Mr. Phillips, to discover the foundations of the western buildings have been successful. The entire foundations of the west wall of the cloister garth have been laid bare, also the remains of one or two intersecting walls and patches of rough pavement. What buildings these remains may have been connected with cannot be said with certainty, but it is thought they belong to the "Domus Conversorum," or lay brothers' building. The foundations are more than 3 ft. thick, and the pavement is composed for the most part of unhewn land stones of considerable size.

Abolition of Second-class Carriages.—The Midland Railway Company have issued a circular announcing a very important change, and one which will prove of great interest to the travelling public. From the 1st of January next the company will abolish the existing second-class fares on their system. All trains will therefore be composed of what are now styled first-class and third-class. It is further notified that the rates of passenger-fares will, from that date, be 1½d. per mile for first-class, and 1d. per mile for third-class. There being, as already explained, no second-class. This makes an important reduction in fares, chiefly in the first-class.

Signalling Railway Trains in Motion.—The recent Exhibition in Glasgow included a novelty in the application of electricity to the purpose of signalling to and from railway trains in motion. This is effected in the model by laying between the rails insulated metal rods which remain in contact with a battery placed on the engine. The inventor, Mr. G. E. Pritchett, F.S.A., architect, believes that had this apparatus been in practical use on the Great Eastern Railway, the Thorpe accident would have been averted, as the station officials, on discovering their mistake, could have arrested the erring train while it was hurrying on to destruction.

The Cheltenham Sewage Farm.—The sewage farm has this year been let by tender, instead of, as usual, by auction, the tenders sent in in response to the Board's advertisement being considered sufficiently satisfactory to warrant this departure from the usual rule. The amount tendered is an advance on the receipts for any year hitherto, and it is a noticeable fact that the only lot upon which there has been a falling off from the price given the first year is a small field of 6 acres broken up for rye-grass. The average per acre for the four years has been,—1872, 6l. 12s. 3d.; 1873, 6l. 8s. 4d.; 1874, 6l. 8s. 4d.; 1875, 6l. 15s. 7d.

A Monument to Liebig, the Chemist.—The *Academy* states that nearly 100,000 marks have been collected in different parts of the world for the monument which is to be erected to Liebig at Munich.

The Late William Jerdan.—A red granite tomb has been erected over the remains of the late William Jerdan in the old churchyard at Bushey. It bears the following inscription:—

WILLIAM JERDAN, F.S.A.,
Born at Kelso, April 16, 1782; died at Bushey, July 11, 1869.
Founder of the *Literary Gazette*, and its editor for 34 years.

Erected as a tribute to his memory by his friends, and Associates in the Society of Noviomagus. 1874.

Mr. Durham, A.R.A., undertook the supervision of it on the part of his brother members of the club.

Free Roads and Bridges.—At the next meeting of the St. Pancras Vestry, the following motion, which has been placed on the paper of business by Mr. Westacott, will be discussed:—"That the Metropolitan Board of Works be requested to consider, at the same time as the subject of freeing the bridges over the Thames from toll is before them, whether some steps could not be also taken to free the roads of the metropolis, by the removal of the barriers and gates now situate on the Bedford and such other estates in the metropolis." The existence of these barriers is quite a discredit.

The Projected Beach Baths at Brighton. The Town Council of Brighton, by a majority of twenty-one to nineteen, have agreed to a resolution of their Works Committee to grant to a proposed company a lease, for ninety-nine years, of a considerable portion of the beach east of the chain-pier for the erection of baths. The town can only give a lease of eight years, it appears, of any part of the fore-shore, which reverts to the Admiralty. The price of the ninety-nine years' lease is 150l. a year; and a proviso is made for the acquisition of the projected baths by the Corporation.

The Leicester-square Fountain.—On the recommendation of the Parks, Commons, and Open Spaces Committee of the Metropolitan Board of Works, that "the fountain in Leicester-square be closed until the 1st of May next," it was stated at the last meeting that the water bill for supplying the fountain for three months, when it was playing for six hours a day, was 250l., and that to work it for four hours per diem per annum would be 1,000l. It was decided to close the fountain until the time recommended.

The Fern House for Peel Park.—In reference to the question of the acceptance of the fern-house offered to the park committee by Mr. Agnew and other gentlemen, we are given to understand that the committee were unable to accept the offer made, principally on the ground that the condition of requiring payment of the public for admission to the fern-house would be contrary to the spirit of the park trust deed, and that the expense would be rather burdensome.

Proposed New Vestry-hall for Kensington.—At the last meeting of the Kensington vestry, the Law and Parliamentary Committee reported recommending the vestry to offer the Charity Commissioners a sum of 7,100l. for the site of the Kensington National School, Kensington High-street, adjoining the vestry-hall, for the erection of a large hall in which to hold public meetings. After some discussion, the report was adopted on a show of hands by a large majority, and a division failed to alter the result, the numbers being—for, 47; against, 10.

The Watford Public Library.—The Public Library with School of Science and Art at Watford, the first one erected in the county, was opened on Wednesday last, the Right Hon. the Earl of Verulam, the lord lieutenant of the county, officiating. The design is of the Gothic style (brick with stone dressings), by Messrs. Sedgwick & Son, architects, Watford. It contains on the ground floor subscription reading-room, book-room, youths' institute, and committee-room. On the first floor are the School of Art and the School of Science.

The Restoration of Tewkesbury Abbey. It has been determined that the stonework internally be cleaned and pointed; that the gallery be taken down, and the organ removed; that all pews and seats be removed, and new seats erected; that the position of the stalls and choristers' seats, and of the pulpit and reading-desk, be altered; that the glass in the chapels be removed; that the whole of the floors, both wood and stone, be taken up, levelled, and re-laid.

Chelsea New Bridge.—A meeting of inhabitants of Battersea was held on Wednesday for the purpose of taking measures to obtain the speedy abolition of the toll on the new Chelsea Suspension-bridge. It was resolved that a committee should be appointed to ascertain on what terms the Government would part with the bridge, and to communicate with the Metropolitan Board of Works with the view to purchasing it.

The Royal Aquarium, Westminster.—The directors of the Royal Aquarium and Summer and Winter Garden Society have appointed Mr. Bedborough, of Abingdon-street, Westminster, their architect; Mr. W. A. Lloyd their naturalist; and Mr. Bruce Phillips their secretary. We may suppose from this that the shares have been taken up, and that the undertaking will be proceeded with.

Warwick Water Supply.—The plans prepared by the engineer, Mr. E. Pritchard, C.E., for the Haseley Water Works have been deposited with the Local Government Board, by the Town Council, who have applied for permission to borrow between 17,000l. and 18,000l. for such works. It is expected that an inspector will shortly attend in Warwick from the Board for the purpose of holding an inquiry.

The Liverpool Art Club.—The members of the Liverpool Art Club have entertained Mr. E. M. Ward, R.A., and Mrs. Ward, at dinner. A *conversazione* was afterwards held, during which the fine collection of rare etchings now on view at the club-room were inspected by the visitors and others with great interest. Mr. and Mrs. Ward were received with much cordiality.

The Proposed New Workhouse for Sheffield.—Mr. Basil Cane, the Poor Law inspector, and several members of the Sheffield Board of Guardians have visited the site at Pitsmoor, selected for a new workhouse. The site, it is said, contains about forty acres, and the price is 15,000l. Mr. Cane expressed his approval of the site.

Oliver Cromwell.—Messrs. Cox & Sons, of Southampton-street, Strand, have lately cast at their Bronze Statue Foundry, a colossal statue of Oliver Cromwell, by Mr. Matthew Noble, and which is now on view in their show-rooms, Southampton-street, previously to its being despatched to its destination.

The Accident Insurance Company has published a complete list of the claims and compensations paid each year for fatal and other casualties insured by them under their policies. The total amount of compensations paid since this business was first commenced at Bank-buildings has reached the sum of 370,000l.

Building Land, Dover.—Last week Messrs. James B. Terson & Son sold by auction, at the Royal Oak Hotel, a piece of building land in Biggin-street nearly opposite Pencester-street, containing an area of about 6,000 square feet. It realised 440l.

Stapden.—A three-light geometrical window has lately been fixed in this church to the memory of the late Mr. Charles Bass. The window was designed and executed by Messrs. Cox & Sons.

TENDERS

For Christ Church, Beckenham. Messrs. Blashill & Haywood, architects. Quantities supplied by Mr. D. Cubitt Nichols:—

	Nave, &c.	Chancel.	Spire.
Waldram & Co.	£5,150	£1,152	£744
Manley & Regers	5,120	1,140	730
Browne & Robinson	5,100	1,110	700
Bress	4,999	1,150	750
Hill, Higgs, & Hill	4,940	1,000	700
Gascoigne & Sons	4,930	1,016	673
Dove, Brothers	4,865	940	650
Crossley	4,797	1,017	626
Hooker	4,700	1,066	634
Gammon & Sons	4,300	873	557

For alterations, &c., to shop-front, No. 90, Fulham-road, South Kensington, London, for Mr. A. Chase. Messrs. Ebbets & Cobb, architects:—

Perkins	£293 0 0
Wagner	290 0 0
Walker	285 0 0

For house on the Enville estate, for the Right Hon. the Earl of Stamford and Warrington. Mr. T. Smith, architect. Quantities by T. C. and J. P. Sharp:—

Bineon & Sons	£2,950 0 0
Nelson	2,929 0 0
Wood & Sons	2,795 0 0
Guest (accepted)	2,667 0 0